ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE 1 INVESTIGATION

Hazardous Waste Disposal
Site No. 152113
Town of Babylon, Suffolk County

Final - July, 1988

Prepared for :
New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, Commissioner
Division of Hazardous Waste Remediation
Michael J. O'Toole, P. E., Director

Prepared by:
Roux Associates, Inc.
Subcontractor to
Gibbs & Hill, Inc.

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES IN THE STATE OF NEW YORK PHASE I INVESTIGATIONS

Hazardous Waste Disposal
Town of Babylon, Suffolk County
New York ID No. 152113

Prepared for:

Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-0001

July 1988

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775 Park Avenue
Suite 255
Huntington, New York 11743

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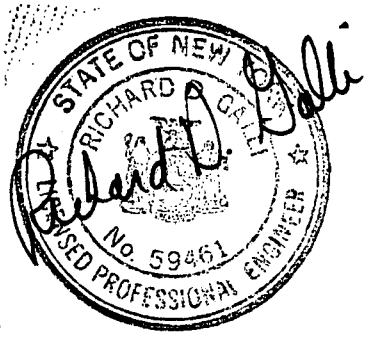

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FIGURES

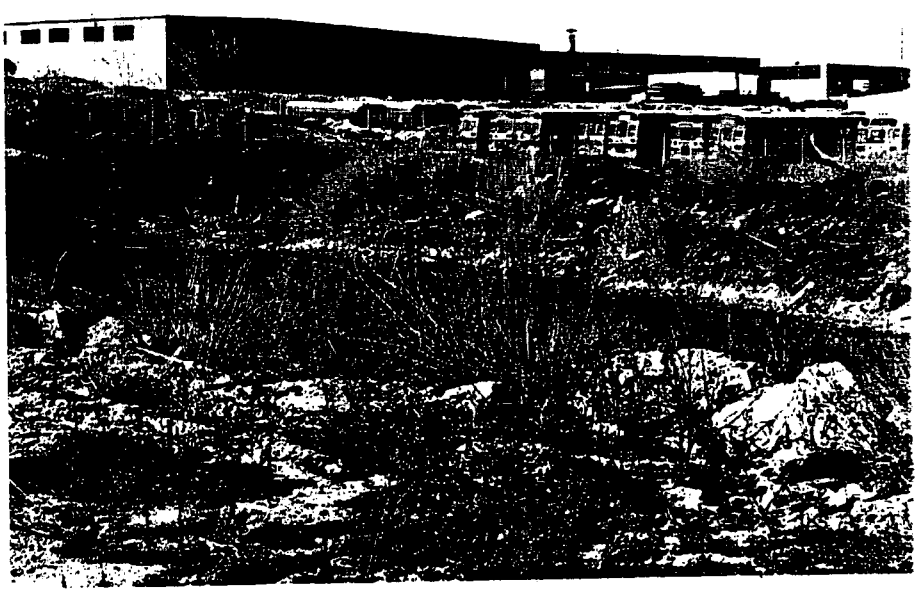
APPENDICES

A. Copies of relevant information that has not been included in the HRS Documentation Section.

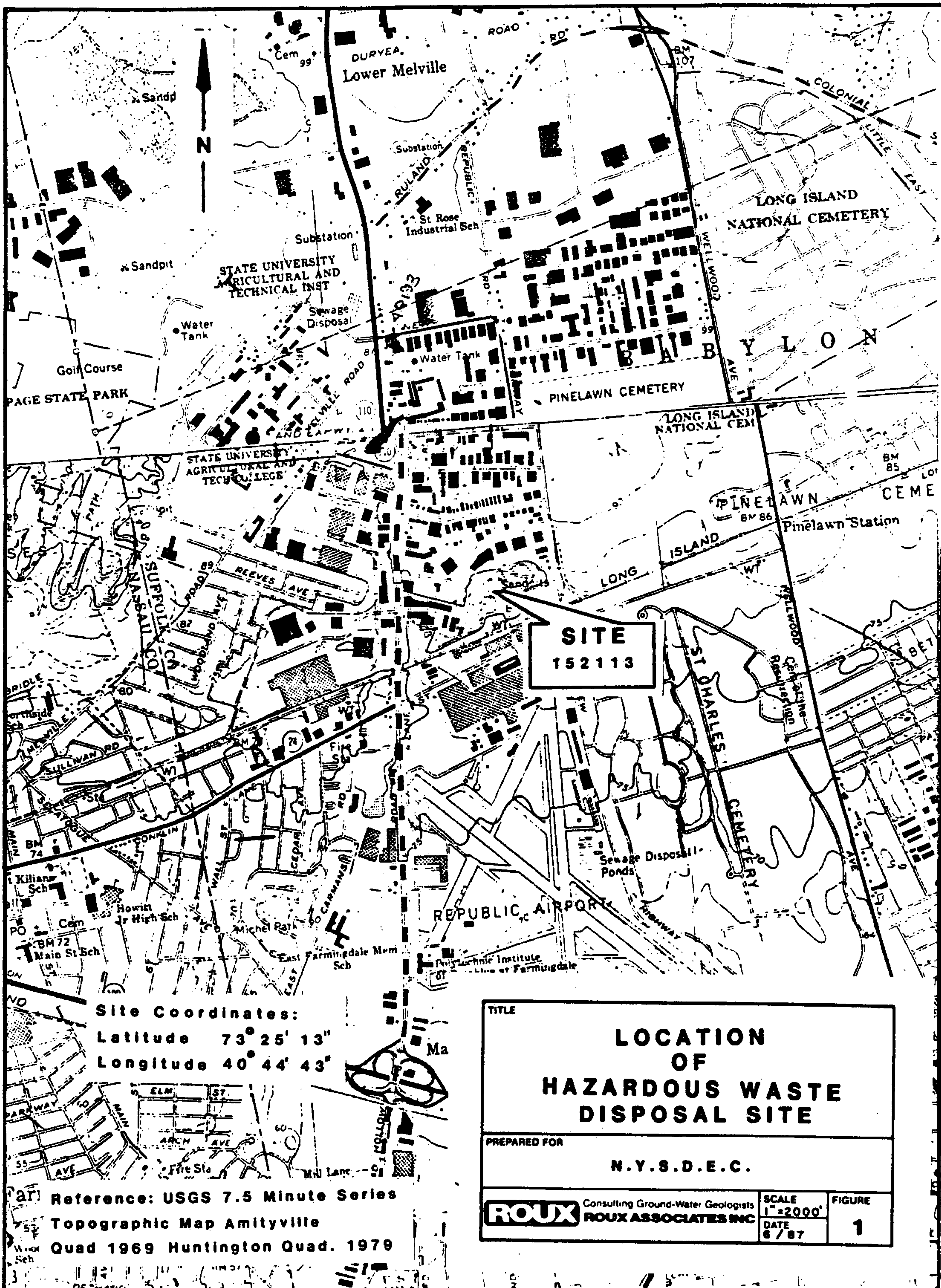
B. Updated NYS Registry Form

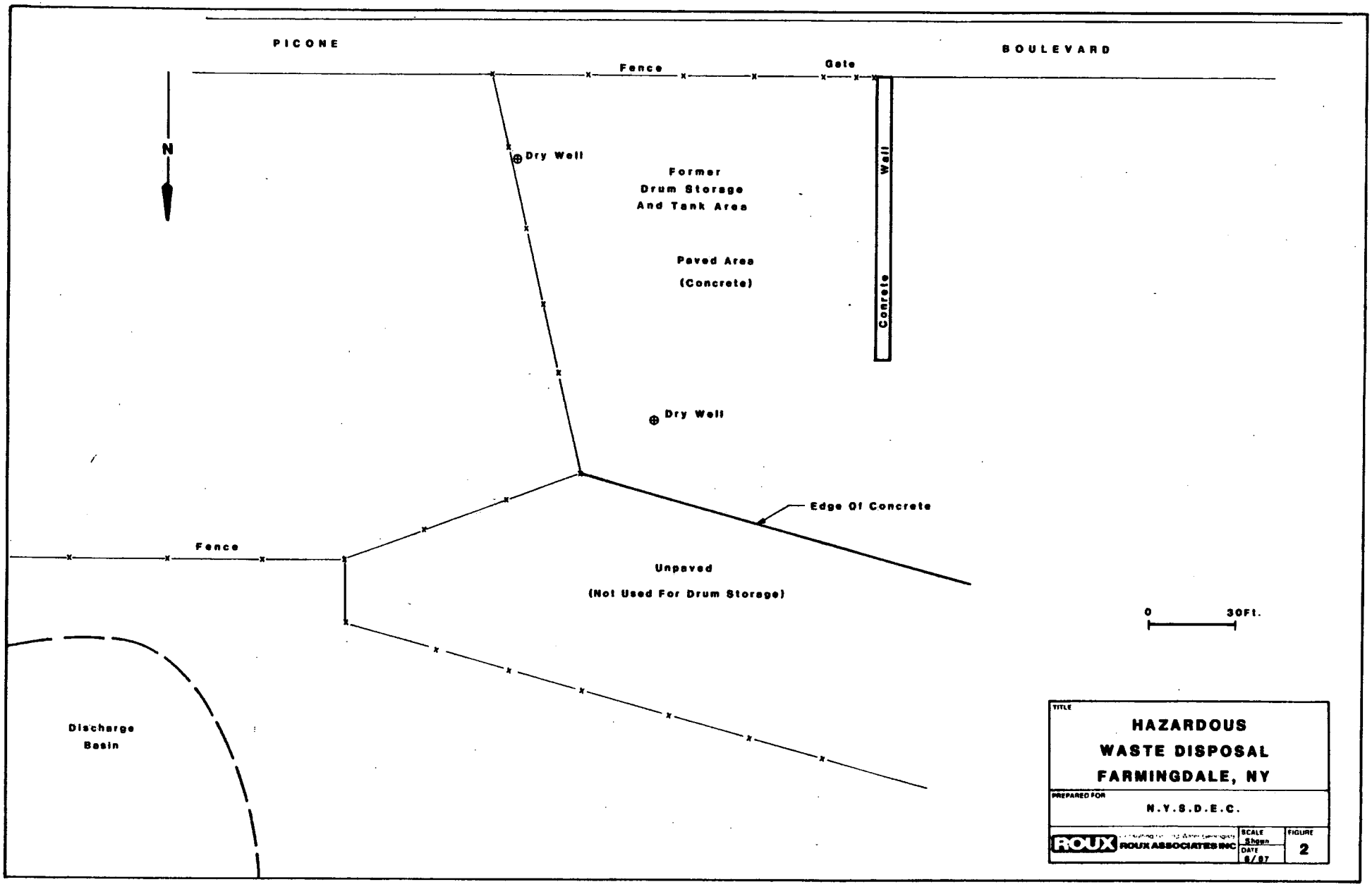
Former location of Hazardous Waste Disposal; it is currently a parking lot for trucks and school buses.

Another view of concrete on which drums of material were formerly stored. The concrete is stained with rings from the 55-gallon drums.



Basin which is located east of the site. (The school buses are located on-site).


N
Lower Melville
DURYEA
ROAD
RD
COLONIAL
Substation
RULAND
REPUBLIC
St Rose Industrial Sch
LONG ISLAND NATIONAL CEMETERY
WELLWOOD
Sandpit
STATE UNIVERSITY AGRICULTURAL AND TECHNICAL INST
Sewage Disposal
Water Tank
Golf Course
PAGE STATE PARK
MELVILLE ROAD
BABYLON
PINELAWN CEMETERY
LONG ISLAND NATIONAL CEM
STATE UNIVERSITY AGRICULTURAL AND TECH COLLEGE
PINELAWN
CEME
Pinelawn Station
LONG ISLAND
REEVES AVE
SUFFOLK CO
NASSAU CO
SITE
152113
ST CHARLES CEMETERY
SULLIVAN RD
CONKLIN
WALL ST
CEDAR
CARMANS
Sewage Disposal Ponds
REPUBLIC AIRPORT
Howitt Jr High Sch
Michel Park
East Farmingdale Mem Sch
Main St Sch
Polytechnic Institute
ELM ST
ARCH AVE
PARKWAY
HOLLOW
Mill Lane
Fire Sta
Site Coordinates:
Latitude 73° 25' 13"
Longitude 40° 44' 43"
Reference: USGS 7.5 Minute Series
Topographic Map Amityville
Quad 1969 Huntington Quad. 1979
TITLE
LOCATION OF HAZARDOUS WASTE DISPOSAL SITE
PREPARED FOR
N.Y.S.D.E.C.
ROUX
Consulting Ground-Water Geologists
ROUX ASSOCIATES INC
SCALE 1"=2000'
DATE 6/87
FIGURE 1


PICONE
BOULEVARD
Fence
Gate
N
Dry Well
Former
Drum Storage
And Tank Area
Paved Area
(Concrete)
Well
Concrete
Dry Well
Edge Of Concrete
Fence
Unpaved
(Not Used For Drum Storage)
0
30Ft.
Discharge
Basin
TITLE
HAZARDOUS
WASTE DISPOSAL
FARMINGDALE, NY
PREPARED FOR
N.Y.S.D.E.C.
ROUX
ROUX ASSOCIATES INC
SCALE
Shown
DATE
8/87
FIGURE
2

1. EXECUTIVE SUMMARY

The Hazardous Waste Disposal site (New York I.D. No. 152113, EPA I.D. No. T000603894) is a suspected waste disposal area located in the Village of Farmingdale, Suffolk County, New York. The site is situated on a 1/2 acre plot in an industrial park at 11A Picone Boulevard (Figure 1). The current owner of the property is Little Joseph Realty of Farmingdale, New York.

The property was rented, via the realty company, to Mr. George Lawrence from about 1979 to 1982. In 1981 the site was identified by the Suffolk County Department of Health Services (SCDHS) when an inspection was conducted in response to a reported vapor release incident.

From the late 1970's to the early 1980's the Hazardous Waste Disposal (HWD) site was used as a temporary storage facility for hazardous and toxic wastes (Figure 2). The Suffolk County Department of Health Services reported that waste materials were contained in 55-gallon drums, large tanks and a sludge pit. Wastes were also recycled and reclaimed for resale.

The HWD site was evaluated using the Hazard Ranking System (HRS). HRS scores for the site consisted of a Migration Score (S_M) = a Ground-Water Score (S_{gw}) = a Surface-Water Score (S_{sw}) = an Air Route Score (S_a) = a Fire and Explosion Score (S_{FE}) = and a Direct Contact Score (S_{DC}) =

The research of available data and the inspection of the site have produced insufficient data to complete a final HRS score for this site. However, there is reason to believe, based on previous site inspections conducted by state and local agencies, that hazardous wastes may have been released into the soil, thus posing a potential threat to ground-water quality. Analytical data will be necessary to confirm the presence of ground-water contamination.

A Phase II investigation is recommended to obtain analytical data to determine if contaminants from the HWD site have been released into the environment.

The proposed Phase II Investigation includes the installation of 4 soil boring/monitoring wells and the collection and analysis of soil and ground-water samples.

2. PURPOSE

The HWD site is listed on the New York State Registry of Inactive Hazardous Wastes sites because it is suspected of releasing hazardous and toxic wastes into the environment. The Suffolk County Department of Health Services identified the site in 1981 when a site inspection was conducted in response to a vapor release incident.

The purpose of a Phase I investigation is to provide a preliminary characterization of hazardous substances at the site. This characterization includes migration pathways taken by the pollutants and the affect that the pollutants might have on human population and/or natural resources.

A Phase I investigation is a compilation of existing information which includes:

- Site history - available records obtained from state, federal, county and local agencies.
- Site hydrogeology and topography.
- Local demographics, local surface water and ground-water use.

- Interviews with site owners, operators and other individuals knowledgeable of site history and operations.

- Site inspection.

- Phase I report which includes data evaluation, a preliminary Hazard Ranking Score (HRS) and recommendations for a Phase II investigation.

3. SCOPE OF WORK

The Phase I investigation of the Hazardous Waste Disposal site involved a data and records search/assessment, interviews, and a site inspection all conducted by Roux Associates, Inc. The following are the sources contacted and the information gathered from these contacts:

CONTACT	INFORMATION COMPILED
Mr. Vic Emanuelo, Attorney Little Joseph Realty 1637 Broad Hollow Road Farmingdale, NY 11735 (516) 249-3400	Interview
Mr. Ed Lynch Facility Superintendent Little Joseph Realty 1637 Broad Hollow Road Farmingdale, NY 11735 (516) 249-3400	Interview
Mr. Tony Candela Senior Sanitary Engineer New York State Department of Environmental Conservation Division of Solid and Hazardous Waste SUNY - Building #40 Stony Brook, NY 11794 (516) 751-7900	Site file verbal information
NYS Dept. of Agriculture and Markets Division of Rural Affairs State Campus Bldg. No. 8, Room 805 Albany, NY 12235 (518) 457-2713	Information

CONTACT	INFORMATION COMPILED
NYSDEC Division of Fish & Wildlife Significant Habitats Unit Wildlife Resources Center Delmar, NY 12054 (518) 439-7486	Verbal information
Mr. Frank Randall Suffolk County Department of Health Services 225 Rabro Drive East Hauppauge, NY 11788 (516) 451-4633	Site file/ information
Mr. Lawrence J. Alden Sanitary Engineer New York State Department of Environmental Conservation Bureau of Hazardous Site Control Division of Solid and Hazardous Waste 50 Wolf Road Albany, NY 12233 (518) 457-0639	Site file/information
Mr. Martin Shea Fish and Wildlife Technician New York State Department of Environmental Conservation Bureau of Environmental Protection SUNY - Building #40 Stony Brook, NY 11794 (516) 751-7900	Wetlands information
Mr. George Shultz Principle Engineering Technician New York State Department of Conservation Division of Water Supply and Management SUNY - Building #40 Stony Brook, NY 11794 (516) 751-7900	Ground water supply information

CONTACT	INFORMATION COMPILED
Mr. Mark Carerra New York State Department of Environmental Conservation Division of Water Quality SUNY - Building #40 Stony Brook, NY 11794 (516) 751-7900	Supply-well/ observation
Mr. Ron Busciolano U.S. Geological Survey 5 Aerial Way Syosset, NY 11791 (516) 938-8830	Supply-well/ observation well information
Mr. David Obrig Suffolk County Department of Health Services 225 Rabro Drive East Hauppauge, NY 11788 (516) 451-4633	Verbal information
Mr. John Ferarra E. Farmingdale Water District Farmingdale, NY (516) 249-4211	Ground-water use/ information
Mr. Limblade S. Farmingdale Water District Farmingdale, NY (516) 249-3330	Ground-water use/ information
Mr. K. Bonneau Huntington Town Water District Huntington, NY (516) 427-0305	Ground-water use/ information
Plainview-Bethpage Water District Plainview, NY (516) 931-0093	Ground-water use/ information
Suffolk County Water Authority Babylon Office Babylon, NY (516) 669-1669	Ground-water use/ information

CONTACT	INFORMATION COMPILED
Mr. George Lawrence Former Operator of HWD Environmental Services Inc. Smithtown, NY (516 273-3150	Site information

4. SITE ASSESSMENT - HAZARDOUS WASTE DISPOSAL

4.1 Site History

The Hazardous Waste Disposal (HWD) site is a paved 1/2 acre lot located in the Village of Farmingdale, Suffolk County, which had been used as a storage facility for hazardous and toxic wastes (Figure 2). The site, owned by Little Joseph Realty, Farmingdale, New York is presently being used as a parking lot. The previous tenant, Mr. George Lawrence of Glenwood Landing, New York, operated his company, HWD, at the site for a period of about three years (Appendix A1 and A2).

HWD was in the industrial waste scavenger business which included the transportation and storage of hazardous wastes. HWD also processed wastes for recovery and resale purposes. In 1979 HWD changed it's address listing from Valley Stream, New York to the Picone Boulevard, Farmingdale address. From 1979 to 1982 HWD used the site for the temporary storage of hazardous and toxic wastes (Appendix A3). These wastes were contained in 55-gallon drums, large holding tanks and a sludge pit (Appendix A4 and A5).

In March of 1981 HWD reported a vapor discharge incident to

the Suffolk County Department of Health Services (SCDHS). HWD identified a faulty valve for allowing nitrogen oxygen compounds (NO_x) and hydrochloric (HCl) vapors to be released into the atmosphere. In response to this incident, the SCDHS investigated the HWD premises. Testimony taken from an HWD neighbor and the local fire department gave the SCDHS sufficient cause to recommend a detailed industrial survey be performed at the site (Appendix A6). The survey discovered that HWD was operating an ammonium-hydroxide scrubbing process on an acid storage tank without a permit and a violation was issued (Appendix A7). SCDHS requested that the New York State Department of Environmental Conservation (NYSDEC) carry out legal actions against HWD for the violation of Article 27 and 71 of the Environmental Conservation Law of the State of New York (Appendix A8, A9 and A10). Legal actions followed and the DEC ordered HWD to cease operations and remove all hazardous waste materials from the property.

The Environmental Protection Agency (EPA) conducted a site inspection in September 1981 and identified 1900 55-gallon drums and a 2500-gallon acid tank on-site (Appendix A4). In June and September of 1982 the SCDHS visited the site and, similar to the EPA inspection, observed no clean-up work and poor site conditions (Appendix A5). However, HWD advised

the SCDHS in November 1982 that all hazardous waste, containers, tanks and miscellaneous items had been removed from the site and had been properly disposed. A SCDHS site inspection in November 1982 and a DEC site inspection in June and July of 1985 confirmed that the site had been cleaned up and wastes had been removed.

Located on the site property are two drywells/storm drains which control drainage. Based on site inspections, poor conditions (leaky drums and spills) were observed during HWD operations (Appendix A4 and A5). It is possible, especially during rainfall events, that runoff containing spilled wastes were collected by the on-site drywells. The drywells are connected to a drainage system which collects run off from other areas of the industrial park and empties into a nearby recharge basin or sump (Figure 2) (Appendix A11).

There is no analytical data available from the site, however, there is reason to believe that a possible threat to ground water exists.

4.2 Site Topography

Located in an industrial park, the site (about 1/2 acre in size) is surrounded by various commercial and industrial

facilities. The site is situated on a glacial outwash plain which gently slopes south at about 20 feet per mile from the moraines, which are located to the north (Pluhowski, et.al. 1964). The site itself is characterized by a relatively flat topography.

Several streams, located over 3 miles south of the site, are widely spaced and have few or no tributaries. Flow in these streams, which are generally about 3 miles long, is to the south. Mean annual discharges are less then 20 cubic feet per second (Ku, et.al. 1981).

Flat topography and the highly permeable outwash deposits (sand and gravel) cause most precipitation falling beyond stream channels to infiltrate quickly into the ground. Run off from most housing, commercial and industrial developments, and highways empty into excavated recharge basins or sumps. Almost all ponds are manmade (Pluhowski, et.al. 1964). The installation of sewer systems in southeastern Nassau County has resulted in the lowering of the water table and a reduction in stream flow (Ku, et.al. 1981).

4.3 Site Hydrogeology

The HWD site is underlain by approximately 1300 feet of unconsolidated glacial deposits of Pleistocene age and coastal-plain deposits of continental and marine origin of late Cretaceous age. These deposits are made up of gravel, sand, silt and clay are underlain by Paleozoic and/or Precambrian bedrock composed mostly of schist and gneiss. Bedrock, due to it's low permeability, is considered the base of the ground-water reservoir on Long Island (Pluhowski, et.al. 1964 and Jensen, et. al. 1974).

The Lloyd aquifer, the Raritan clay, the Magothy aquifer and the Upper Glacial aquifer are the four hydrostratigraphic units which comprise the unconsolidated deposits overlying bedrock. The Lloyd aquifer lies directly on the bedrock surface and is the lower most water-bearing zone in the ground-water reservoir. This deep artesian aquifer is composed of light-colored sand and gravel with lenses of clay and silty clay. The altitude of the top of the Lloyd in the area of study is approximately 900 feet below sea level (Jensen, 1974 and Pluhowski, et.al. 1964).

The Raritan clay consists predominately of clay with varying

amounts of silt and sand, and acts as an effective confining unit for the underlying Lloyd aquifer (Pluhowski, et.al. 1964). In the study area (within a 3-mile radius of the site) the Raritan is about 100 feet in thickness with the upper surface of the unit about 800 feet below sea level (Jensen, et. al. 1974).

Situated above the Raritan clay is an upper Cretaceous unit composed of permeable lenticular deposits of sand, gravel and clay referred to as the Magothy aquifer. Below the study area, the thickness of the Magothy is approximately 900 feet (Jensen, et. al. 1974).

The uppermost zone of the ground-water reservoir is the Upper Glacial aquifer. This unconfined unit lies unconformably on the Magothy and consists of highly permeable upper Pleistocene deposits of sand and gravel. The lower boundary of the Upper Glacial aquifer depends on the presence of low permeable lenses of silt and clay in the Magothy aquifer. However, where the upper Magothy consists of permeable deposits, the Upper Glacial and the Magothy aquifers are considered hydraulically connected (Pluhowski, et. al. 1964). In this report the Upper glacial and the Magothy together will be considered the principal aquifer of concern.

Highly permeable outwash deposits of sand and gravel in the upper part of the principal aquifer (Upper Glacial deposits) yield as much as 1,500 gallons per minute (gpm) with specific capacities commonly 40 to 75 gpm per foot of drawdown. Wells screened in the impermeable to highly permeable Magothy aquifer yield as much as 1,500 gpm with specific capacities ranging from 1 to 49 gpm per foot of drawdown (Pluhowski, et. al. 1964).

Regional ground-water flow is south to southeast, away from the topographic and water-table high to the north. Lateral movement of ground water within the principal aquifer in the study area will mimic the regional flow direction (Donaldson, et. al. 1979).

Located within a 3-mile radius of the site are over 20 public-supply wells and numerous observation wells. These wells are screened both in the Upper Glacial and Magothy aquifers. Downgradient (direction of ground-water movement), about 1 3/4 miles southeast of the site, a pumping well (S66556) is located. Two public-supply wells (NYSDEC #20041 and #20042) are located approximately 1400 feet to the northwest (upgradient) of the site. In 1961, the depth to water recorded in both wells was 25 feet below land surface

(Krulikas, 1981). This coincided with measurements reported in 1979 (Donaldson, et. al. 1979).

REFERENCES FOR THIS SECTION

Pluhowski, E.J. 1964. Hydrology of the Babylon - Islip Area Suffolk County Long Island, New York. USGS Water-supply Paper 1768 (Appendix A19).

Krulikas, R.K. 1981. Hydrogeologic Data from Selected Wells and Test Holes in Suffolk County, Long Island, New York, 1972-80. USGS Open-file report 81-500 (Appendix A20).

Jensen, H.M. and Soren, J. 1974. Hydrologic Investigations Atlas. USGS Atlas HA-501 (Appendix A21).

Ku, H.F.H. and Simmons, D.L. 1981. Base flow of streams in Nassau County Sewer District 2 and 3, Long Island, New York, 1978-79. Water-Resources Investigation Open-file report 81-420 (Appendix A22).

Donaldson, C.D. and Koszalka, E.J. 1979. Water Table on Long Island, New York, March 1979. Open-File Report 82-163. Plate IA West (Appendix 23).

4.4 Site Contamination

Waste Types and Quantities

No analytical data is available for wastes which had been stored on-site. Documents state that hazardous wastes such as oils, paint sludge and various solvents were handled by HWD. HWD also operated a reclamation process for spent solvents. Observations recorded during a site inspection by the EPA stated that 1900 55-gallon drums and one 2500 gallon tank were present at the facility. This information produces an estimated waste quantity at the time of the site inspection at about 107,000 gallons (Appendix A4).

Ground Water

No data available.

Surface Water

Not applicable. Natural surface-water bodies are located over 3-miles from site.

Air

No data available. During the site inspection conducted by Roux Associates on June 25, 1987, a photoionization meter (TIP II) was employed. Readings recorded were not above background.

5. PRELIMINARY HRS

Documentation records and work sheets required to develop Hazard Ranking System (HRS) scores are included in this section. Information was obtained from private, county, state and federal agencies and utilized to prepare as completely as possible the included HRS scores. Documents included in this section are:

- Preliminary Hazard Ranking System (HRS) work sheets,
- Preliminary Assessment Form (EPA form 2070-12)
- Site Inspection Report (EPA Form 2070-13)
- Updated NYSDEC Inactive Hazardous Waste Disposal Report

5.1 Narrative Summary

Hazardous Waste Disposal, Village of Farmingdale, Town of Babylon, Suffolk County

The Hazardous Waste Disposal (HWD) site is a suspected industrial waste disposal area located in the Village of Farmingdale, Suffolk County, New York (Figure 1). The site property, owned by Little Joseph Realty of Farmingdale, New York, is about 1/2 acre in size and is presently being used as a parking lot by a school bus terminal. The previous tenant, Mr. George Lawrence of Glenwood Landing, New York rented the property from the late 1970's to early 1980's. During this time Mr. Lawrence operated Hazardous Waste Disposal, Inc. The Suffolk County Department of Health Services (SCDHS) identified the site in 1981 when an industrial survey was conducted in response to a reported vapor release incident.

HWD conducted business at the site from 1979 to 1981. HWD was a waste scavenger company which removed, transported and disposed of hazardous and toxic waste materials. The HWD site was utilized as a temporary storage facility for wastes which HWD collected from their clients. Wastes were allegedly disposed of at the Applied Environmental Science

facility in Glenwood Landing, New York which was also operated by Mr. Lawrence. Wastes were allegedly contained at the HWD site in 55-gallon drums, large tanks and a sludge pit. In addition to waste storage, HWD recycled spent solvents for resale.

Numerous site inspections by federal, state and local agencies revealed poor site conditions which included corroded and leaking drums. HWD was accused of violating New York State Conservation Laws which resulted in a consent order for HWD to cease operations and perform a site clean-up. In November of 1982, the site had been removed of all hazardous materials and cleaned.

No analytical data are available for the site. However, the on-site drywells may have acted as pathways for which contaminants could travel and enter the subsurface. It is possible that contaminated run-off may have entered the on-site drywells. These drywells are allegedly connected to a subsurface drainage system which discharges into a recharge basin adjacent to the site. Depending on the discharge capacity of the drywells, contaminated run-off may have traveled to the recharge basin during periods of high discharge events, and vertically through the material beneath the drywells at times of low discharge.

Contaminants introduced into the permeable soil could pose a potential threat to ground-water quality. The principal aquifer of concern supplies ground water to over 90,000 people within a 3-mile radius of the site. Two public-supply wells (S20041 and S20042) are located approximately 1400 feet up-gradient from the site. Located down-gradient (in the direction of ground-water flow), approximately 1 3/4 miles to the southeast of the site, is a public-supply well (S66556).

5.2 Site Location

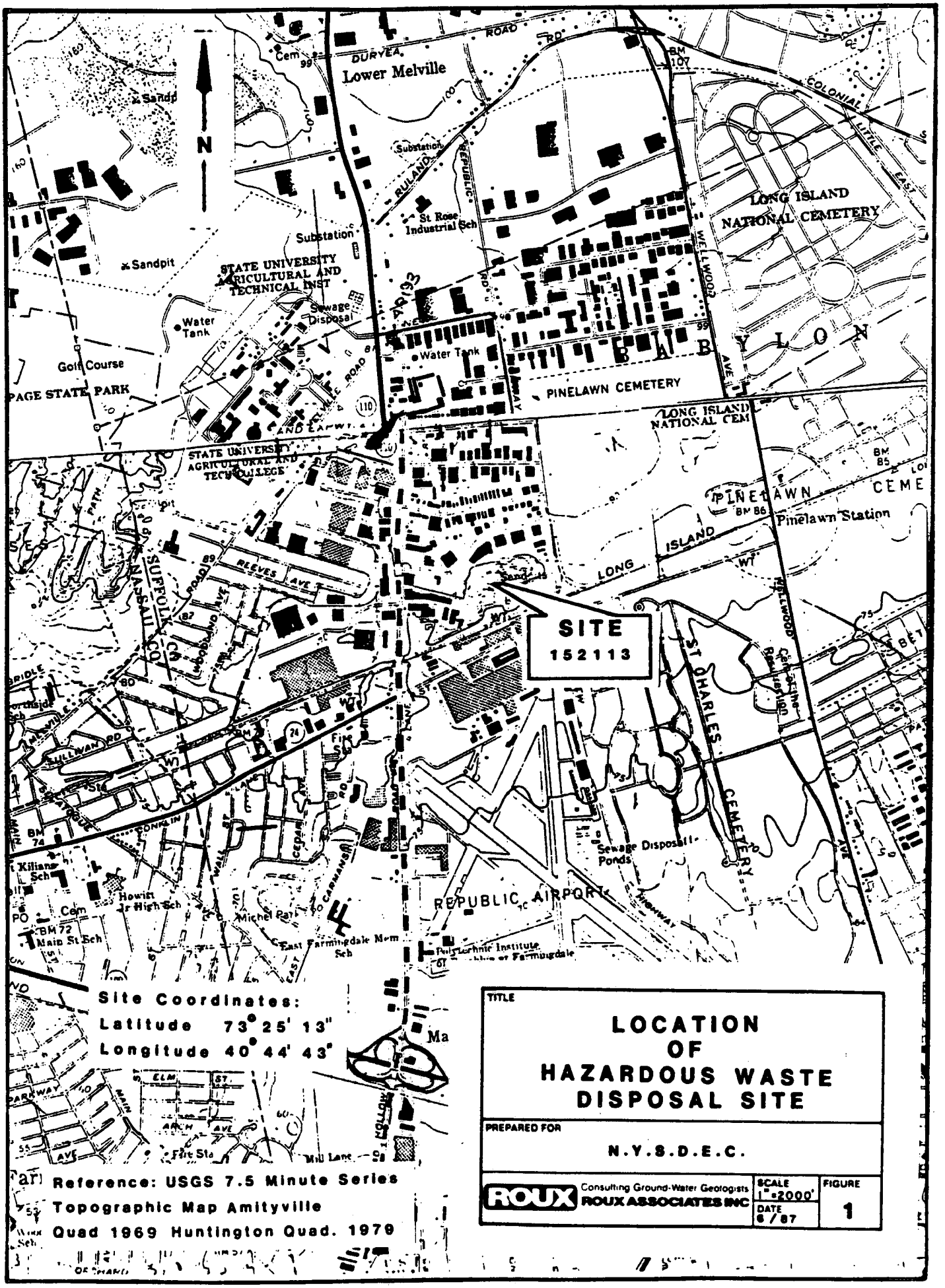

N
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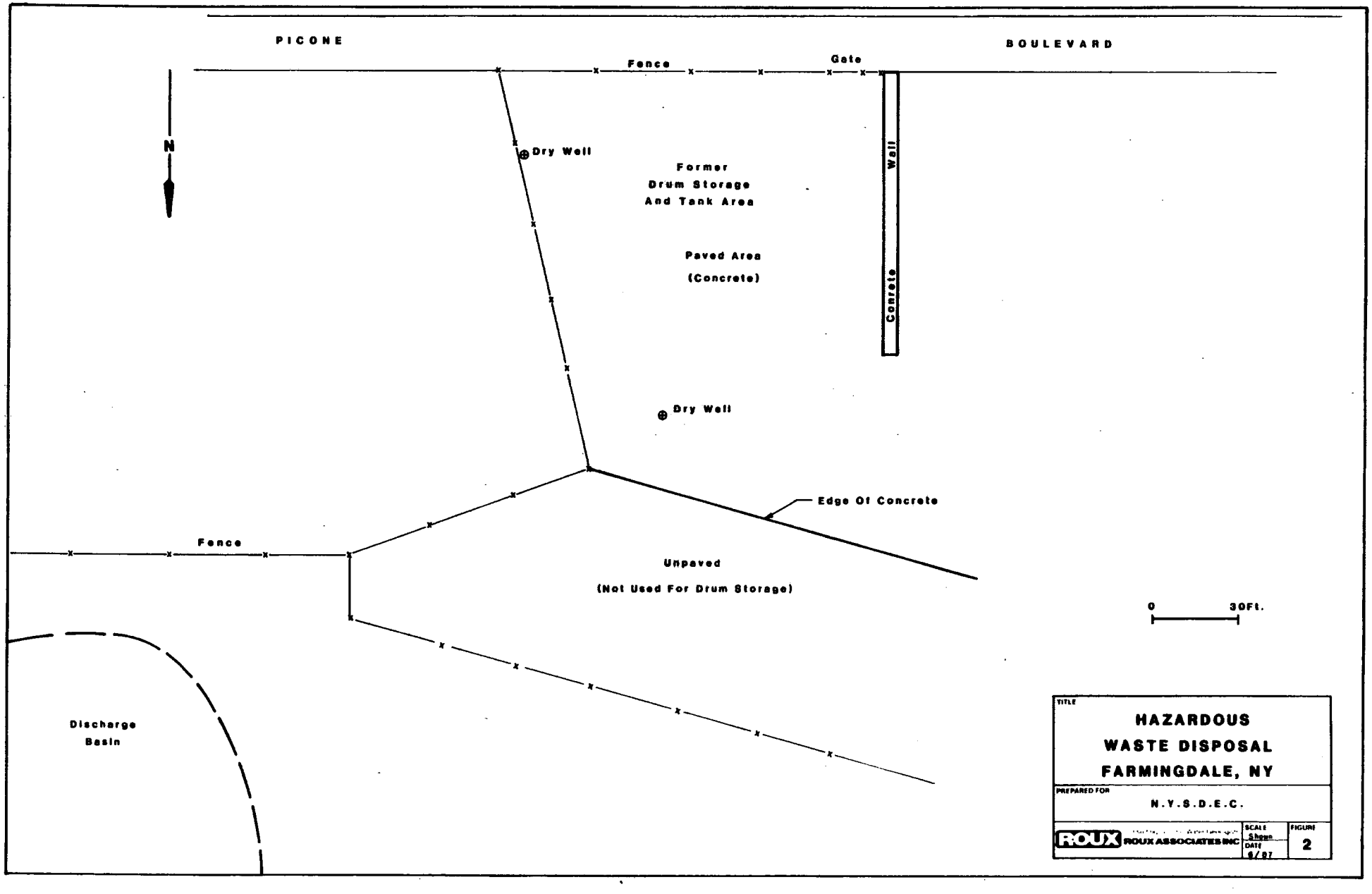
FIGURE 1


PICONE
BOULEVARD
Fence
Gate
N
Dry Well
Former
Drum Storage
And Tank Area
Wall
Concrete
Paved Area
(Concrete)
Dry Well
Edge Of Concrete
Fence
Unpaved
(Not Used For Drum Storage)
0
30Ft.
Discharge
Basin
TITLE
HAZARDOUS
WASTE DISPOSAL
FARMINGDALE, NY
PREPARED FOR
N.Y.S.D.E.C.
ROUX
ROUX ASSOCIATES INC
SCALE
Shown
DATE
9/87
FIGURE
2

5.4 DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: Hazardous Waste Disposal

LOCATION: 11A Picone Boulevard, Village of Farmingdale, Town of Babylon, Suffolk County, New York.

DATE SCORED: June 25, 1987

PERSON SCORING: Joseph Byrnes

PRIMARY SOURCES OF INFORMATION:

Suffolk County Department of Health Services.
New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation.

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

Toxicity of wastes currently at site.
Waste quantity is based on amount of waste stored at site during a September, 1981 EPA inspection.

(#) = Reference number. See end of section for reference.

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

No data available.

Rationale for attributing the contaminants to the facility:

Not applicable.

Assigned value = 0

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

The Magothy and Upper glacial aquifers are designated as the aquifers of concern within a 3-mile radius of the site. The Magothy aquifer consists mainly of fine to medium sand and the Upper glacial aquifer is made up of fine to coarse sand and gravel.

There is no major confining layer between the two aquifers, thus a hydraulic connection does exit between the two aquifers (1).

Depth(s) from the ground surface to the highest seasonal level of the saturated zone (water table(s)) of the aquifer of concern:

Two public-supply wells (NYSDEC No. S20041 and S20042) drilled to a depth of 268 and 585 feet, respectively are located just northwest of the site approximately 1,400 feet away. A depth to water of 25 feet was measured in both wells in 1961 (2). In addition, a water table map for March 1979 shows depth to ground water at about 25 feet below land surface at the site (3).

Depth from the ground surface to the lowest point of waste disposal/storage:

Wastes were allegedly stored at or above land surface. The depth to water (water table) is approximately 25 feet (2,3,4.13.22 and 4.14.22)

Assigned value = 2

Net Precipitation

Mean annual or seasonal precipitation:

46 inches (1).

Mean annual lake or seasonal evaporation:

30 inches (5).

Net precipitation (subtract the above figures):

16 inches.

Assigned value = 3

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Outwash - plain deposits consisting of stratified sand and gravel (1).

Permeability associated with soil type:

Highly permeable, estimated range of hydraulic conductivity $>10^{-3}$ cm/sec (5).

Assigned value = 3.

Physical State of Waste

Liquid/sludge/solid:

Chlorinated and non-chlorinated solvents, paint sludge, waste resins and acids (4.1.22 thru 4.16.22).

Assigned value = 3

3 CONTAINMENT

Containment

Containers - a large number of drums were alledgedly stored on-site. Site inspections revealed many of the drums incompatible with wastes resulting in leaks and corrosion. The storage area is cement paved, however, on-site drywells would collect mishandled wastes and spills. These drywells are connected to a system which drains into a nearby recharge basin (4.1.22 thru 4.16.22 and 6).

Assigned value = 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Available analytical data or disposal invoices do not indicate any specific chemical compound. A broad description of wastes include solvents, paint sludge, resins, oils and acids. A vapor release incident was reported. HWD admitted releasing NO_X and HCl vapors into the atmosphere.

Compound with highest score:

Hydrochloric acid (4 and 5).

Assigned value = 9

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Approximately 1945 drums.

Assigned value = 5

Basis of estimating and/or computing waste quantity:

Based on a site inspection performed by the EPA on September 2, 1981, 1900 55-gallon drums of waste materials (spent solvents and acids) and a 2500-gallon tank containing acid were present on-site. This brings the total quantity of wastes present on-site in 1981 to about 107,000 gallons (4.1.22).

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking water (1).

Assigned value = 3

Distance to Nearest Well

Location of nearest well drawing from aquifer(s) of concern or occupied building not served by a public water supply:

Two (2) public-supply wells (S20041 and S20042) are located approximately 1400 feet north of the site (2,7.1 and 7.4).

Assigned value = 4

Population served by Ground-Water Wells within a 3-Mile Radius

Public Water supplies:

E. Farmingdale Water District - 4 pumping wells serving 5,200 people. The entire district is within the 3-mile radius (7.1 and 9).

S. Farmingdale Water District - serving 48,000 people. Approximately 1/2 of the district is located within the 3-mile radius (7.2).

2.3.16

Table 2. Hydrogeologic units and well completion data from selected wells and test holes in Suffolk County, New York.

EXPLANATION OF COLUMNAR DATA AND ABBREVIATIONS

Well Number

Well numbers are assigned by the New York State Department of Environmental Conservation. A prefix letter S, which designates Suffolk County, is omitted from the well number; thus, the official number of well 40161, for example, is S 40161. Wells are listed in numerical order.

Location of Well

Locations of wells are given by map coordinates, based on latitude and longitude, as shown on plate 1. Map coordinates are based on a latitude and longitude grid system established for Long Island (Veatch and others, 1906; Jensen and Soren, 1971). In this system, 5-minute intervals of latitude are lettered consecutively from south to north, and 5-minute intervals of longitude are numbered consecutively from west to east. The grid coordinates for Suffolk County are shown along the margins of plate 1. Thus, a well whose map coordinates are D15 is in the grid square bounded by lat 40°45' and 40°50'N and long 72°55' and 72°50'W.

Wells are also numbered according to the national well-numbering system of the U.S. Geological Survey. This system locates wells to the nearest second of latitude and longitude and gives a sequence number to the well to denote the chronological order in which wells within a 1-second quadrangle were recorded. For example, in well number 404707N0731905.01 (S 18075), the first six numbers indicate latitude 40°47'07" North; the remaining numbers before the period indicate longitude 073°19'05". The 01 after the period is the sequence number. Thus this well was the first one recorded in the 1-second quadrangle defined by the latitude and the longitude.

Well depth

The figures give well depth or total depth of the drilled test hole, in feet below land surface.

Hydrogeologic Unit Penetrated and Elevation of Unit Surface

Elevations of the tops of the hydrogeologic units penetrated by wells are given in feet above or below National Geodetic Vertical Datum of 1929. A minus (-) sign preceding the elevation figure indicates that the elevation is below National Geodetic Vertical Datum of 1929. The number in the "upper glacial aquifer" column is the elevation of the land surface at the well site. Absence of an elevation figure indicates that the test hole did not penetrate the unit.

2.4.16

Table 2.--Explanation (continued)

Year Completed

Year completed refers to the year in which the well was reported to have been completed or accepted by the original well owner. It may not always be the year in which the well was actually drilled.

Elevation of Land-Surface Datum (LSD) (feet above National Geodetic Vertical Datum of 1929)

The elevation of land surface at the well was estimated from U.S. Geological Survey 7-1/2-minute quadrangle topographic maps.

Use of Water

The following abbreviations indicate the primary purpose in 1977 for which the water from the well was reported to be used.

ARCD	air conditioning	IND	industrial
COM	commercial	IRR	irrigation
DOM	domestic	OTHR	other
FRPT	fire protection	P.S.	public supply
INST	institutional		

Use of Well

The following abbreviations indicate the principal use of the well or the purpose for which the well or hole was drilled.

DEST	well destroyed	TEST	test hole
OBS	observation well	UNSD	well unused
RECH	recharge water	WTDR	withdrawal of water

Screen Setting and Total Screen Length

The elevations of the top and bottom of the screened interval are given in feet above or below (-) National Geodetic Vertical Datum of 1929. The total length of screen or perforated pipe in that interval is given in feet. In some wells, screen was set at two or more intervals; in such cases the difference between the elevations of the two screen settings is different from the total screen length.

Diameter of Well

The diameter of the well is the inside diameter of the smallest casing at land surface, in inches.

Plainview - Bethpage Water District - Serves 8,300 people. The district is located almost entirely within the 3-mile radius (7.3).

Huntington Town Water District - Has 9,000 accounts (9000 x 3.8 people). this district supplies about 34,200 people with ground water. Only 1/4 of the district falls within the 3-mile radius (7.3 and 7.5).

Suffolk County Water Authority -

At least 15 public-supply wells are located within a 3-mile radius of the site in the Babylon Water District. An estimated 3,500 people are served per pumping well. Population served in the Babylon District within a 3-mile radius of the site (3500 x 15) = about 52,500 people (7.3, 8 and 9).

Total population served by ground water within a 3-mile radius:

± 90,000 people.

Assigned value = 5

Combined value = 40

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

No data available to confirm release.

Assigned value = 0

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Average slope = 0. Paved parking lot intervening terrain has slope <1% (6).

1-Year, 24-Hour Rainfall in Inches

2.5 - 3.0 inches (5).

Assigned value = 2

Distance to Nearest Downslope Surface Water

Several creeks emptying into the Great South Bay are located over 3 miles away, to the south of site. Almost all pond water is manmade (10).

Assigned value = 0

Physical State of Waste

Liquid/Sludge: Allegedly solvents, acids, paint sludge, resin wastes and waste oils were stored at site. No Analytical data available (4.1.22 - 4.16.22).

Assigned value = 3

3 CONTAINMENT

Containment

Containers - a large number of drums were stored on-site. Site inspections revealed many of the drums incompatible with wastes resulting in leaks and corrosion. The storage area is cement paved. However, on-site drywells would collect mishandled wastes and spills (4 and 6).

Assigned value = 3

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

No Analytical data collected from wastes. However, HWD did admit to releasing acid vapors into the atmosphere (4.17.22 and 4.18.22).

Compound with highest score:

Hydrochloric acid (5).

Assigned value = 9

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Approximately 1945 drums.

Assigned value = 5

Basis of estimating and/or computing waste quantity:

Based on a site inspection performed by the DEC on September 2, 1981, 1900 55-gallon drums of waste materials (spent solvents and acids) and a 2500-gallon tank containing acid were present on-site. Thus, the total quantity of waste in 1981 was about 107,000 gallons (4.1.22).

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

None (11).

Assigned value = 0

Population Served by Surface Water

Location(s) of surface water with water intake within 3 miles (free-flowing) or 1 mile (static) downstream from facility and population served:

None (10).

5 TARGETS

Surface Water Use

Use of surface water within three miles downstream of hazardous substance:

None (12).

Assigned value = 0

Distance to a Sensitive Environment

Distance to 5-acre (minimum)coastal wetland, if 2 miles or less:

None (12).

Assigned value = 0

Land area irrigated by surface water intake(s):

None (10).

Assigned value = 0

Total population served:

None.

Assigned value = 0

Name/description of nearest of above waterbodies:

None.

Distance to surface water intakes:

None.

Assigned value = 0

Combined value = 0

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

A vapor discharge incident was reported on March 11, 1981 at the facility. A faulty valve resulted in the release of NO_x and HCl gases into the atmosphere. No personal or property damage reported. The contaminant levels were not recorded. During the Roux site inspection organic vapors were measured using the TIP II. No reading above background was recorded (4.17.22, 4.18.22 and 6).

Assigned value = 0

Date and location of detection of contaminants:

N/A

Methods used to detect the contaminants:

N/A

Rationale for attributing the contaminants to the site:

N/A

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

N/A

Most incompatible pair of compounds:

N/A

Toxicity

Most toxic compound:

N/A

Hazardous Waste Quantity

Total quantity of hazardous waste:

N/A

Basis of estimating and/or computing waste quantity:

N/A

3 TARGETS

Population Within 4-Mile Radius

Underline radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

>7,500 people but <10,000 (7).

Assigned value = 27

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

>2 miles (12).

Assigned value = 0

Distance to a 5-acre (minimum) freshwater wetland, if 1 mile or less:

>1 mile (12).

Assigned value = 0

Distance to critical habitat of an endangered species, if 1 mile or less:

>1 mile (11).

Assigned value = 0

Land Use

Distance to commercial/industrial area, if 1 mile or less:

<1/4 mile (6).

Assigned value = 3

Distance to national or state park, forest, or wildlife reserve if 2 miles or less:

1 mile (10).

Assigned value = 2

Distance to residential area, if 2 miles or less:

3/4 mile (10).

Assigned value = 2

Distance to agricultural land in production within past 5 years, if 1 mile or less:

>1 mile (10).

Assigned value = 0

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

>2 miles (10).

Assigned value = 0

Is a historic or landmark site (National Register of Historic Places and National Natural Landmarks) within the view of the site?

No (6).

Assigned value = 0

FIRE AND EXPLOSION

Site visit did not demonstrate a fire or explosion threat. During Roux site visit, all photoionization meter readings were at background levels.

DIRECT CONTACT

1 OBSERVED INCIDENT

Date, location, and pertinent details of incident:

None reported and no visual wastes were observed (6).

Assigned value = 0

2 ACCESSIBILITY

Describe type(s) of barrier(s):

Site enclosed with a fence (6).

Assigned value = 0

3 CONTAINMENT

Type of Containment:

No visible wastes at site (6).

Assigned value = 0

4 WASTE CHARACTERISTICS

Toxicity

N/A

5 TARGETS

Population within a one-mile radius

>10,000 people (7).

Assigned value = 5

Distance to a critical habitat (of an endangered species

>1 mile (11).

Assigned value = 0

REFERENCES

Reference #	Description of Reference
1	Pluhowski, E.J. and Kantrowitz, I.H. 1964. Hydrology of the Babylon-Islip Area, Suffolk County Long Island, New York. USGS Water Supply Paper 1768.
2	Krulikas, R.K. 1981. Hydrogeologic Data from Selected Wells and Test Holes in Suffolk County, Long Island, New York, 1972-80. USGS Open-File Report 81-500.
3	Donaldson,C.D. and Koszalka, E.J. 1979. Water Table on Long Island, New York, March 1979. Open-File Report 82-163. Plate IA West.
4	New York State Department of Environmental Conservation, Hazardous Waste Disposal Site file.

5 U.S. EPA 1984. Uncontrolled Hazardous Waste Site Ranking System. A Users Manual (HW-10). Originally published in the July 16, 1982 Federal Register.

6 Roux Site Inspection, June 25, 1987. Notes Available at Roux Associates.

7 J. Byrnes (Roux Associates) telephone conversations with John Fererra (East Farmingdale Water District), Mr. Limblade (S. Farmingdale Water District), Mr. Bonneau (Huntington Town Water District), and representative for Plainview/Bethpage Water District. Public-Supply Well location map.

8 Suffolk County Water Authority, 1986 Annual Report.

9 USGS Header File - Well information.

10 USGS 7.5-Minute Series Topographic: Amityville Quadrangle, 1969 and Huntington Quadrangle, 1979.

11 NYSDEC Bureau of Environmental Protection, Region I. National Wildlife Inventory Map. Available at NYSDEC, Region I. Copy not available for this report.

12 NYSDEC Bureau of Environmental Protection, Region I. National Wetlands Inventory Map.

Hydrology of the Babylon-Islip Area Suffolk County Long Island, New York

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1768

Prepared in cooperation with the Suffolk County Board of Supervisors, Suffolk County Water Authority, and the New York State Water Resources Commission

INTRODUCTION

PURPOSE

The rapid expansion of population and industry in southwestern Suffolk County, particularly since 1950 (fig. 2), has resulted in sharply increased withdrawals from the ground-water reservoir which, at present, supplies all water used in the area. However, the fact that there is substantial streamflow from the area indicates that additional development of the water resources is possible. Because an adequate water supply is essential to the continued growth of the area, knowledge of the occurrence, quality, and availability of water, both underground and in streams, is required by industry and the public. Because the source of all water on Long Island is precipitation, evaluation of the water potential of the area requires following the path of water from its inception as precipitation to its ultimate return to the atmosphere.

The objectives of the investigation were (a) to evaluate and summarize present data on quantity, quality, and availability of both ground water and surface water; (b) to determine the interrelation of ground water and surface water; (c) to evaluate the water balance for the ground-water reservoir, and (d) to evaluate any existing or potential water-supply problems.

This report is part of a continuing cooperative program sponsored jointly by the U.S. Geological Survey, the Suffolk County Water Authority, the Suffolk County Board of Supervisors, and the New York State Water Resources Commission.

LOCATION AND EXTENT OF AREA

The report area includes the Town of Babylon, virtually all of the Town of Islip, and small parts of the Towns of Huntington, Smithtown, and Brookhaven in southwestern Suffolk County, and a small area in the southeastern part of Nassau County (fig. 1). The area comprises about 270 square miles, of which 190 square miles are on the main part of Long Island; the barrier beaches, islands, and Great South Bay comprise the remainder. The area is roughly rectangular in shape; it is about 20 miles long and from 11 to 13 miles wide. The western boundary is mainly along the interstream ground-water divide west of Carman Creek near Amityville (pl. 7). The eastern boundary is mainly along the interstream ground-water divide east of Tuthills Creek near Patchogue (pl. 7). Both eastern and western boundaries extend south to the barrier beaches. The northern boundary is along the main ground-water divide that traverses Long Island and the southern boundary is the Atlantic Ocean.

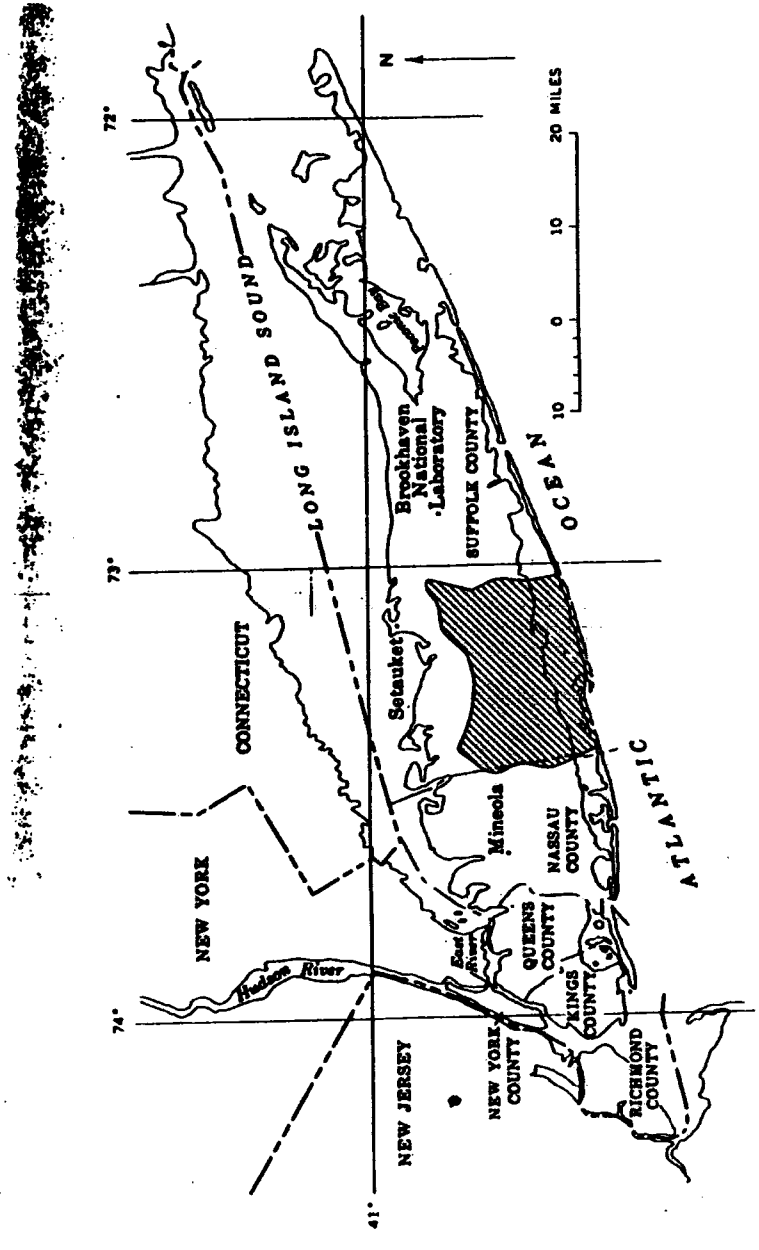


FIGURE 1.—Map of Long Island, New York, showing area of investigation.

METHODS OF INVESTIGATION

Fieldwork began in July 1958 and was completed in March 1961. Well and geologic data were obtained from the files of the New York State Water Resources Commission and from records collected in the field. During the summer of 1958, 44 water-table observation wells were driven in areas where data were scanty. Water-level measurements were obtained at all available observation wells and at several public, industrial, and institutional supply wells. Water samples were collected from the observation wells and analyzed for selected constituents. In October 1958, a water-temperature and water-stage recorder was installed at Champlin Creek at Islip. In November 1958, four temporary recorders were placed in operation on streams for which continuous records of stage were not previously available. The partial-record stream-gaging program in Suffolk County was expanded to include several streams that had never been measured. Three streams, Santapogue River at Lindenhurst, Sampawams Creek at Babylon, and Champlin Creek at Islip, were selected for seepage studies, and discharge measurements were obtained bimonthly at selected sites. In December 1958, a three-element thermograph was placed in operation at Sampawams Creek at Babylon to obtain stream, air, and ground-water temperatures simultaneously.

During May 1959, three lines of shallow observation wells, each line consisting of four wells, were driven adjacent to Champlin Creek to study the relation of ground water to surface water. In addition, three wells were driven directly into the streambed at selected sites to study vertical changes in hydraulic head below the stream. Another line of four wells was driven, in October 1960, just upstream from the gaging station to aid in preparation of a water-table map and to provide additional sampling points for obtaining data on quality of water. To study the effect of ground-water evapotranspiration, a shallow water-table well was dug in August 1960 adjacent to Sampawams Creek, and a recorder was installed to detect water-level fluctuations.

Water samples were collected from selected wells and streams in August 1959, March 1960, September 1960, and March 1961 for determination of synthetic-detergent content. Water samples from four selected wells tapping different aquifers were collected for chemical analysis.

To facilitate office computations of streamflow data, the records of six primary gaging stations in the area and the records for Massapequa Creek at Massapequa in Nassau County were processed by an electronic computer. The processed data included duration tables of daily flow by water years and minimum-mean discharges [illegible]

PREVIOUS INVESTIGATIONS

A study of the water resources of Long Island by Veatch and others (1906), contains some descriptive data on ground water and surface water in the Babylon-Islip area. Maps of the water table of Long Island including the report area have been prepared by Burr and others (1904), Veatch (1906), Suter (1937), Jacob (1945), and Lusczynski and Johnson (1952). A map of the surficial geology of Long Island (Fuller, 1914) and contour maps of the subsurface formations (Suter, deLaguna, and Perlmutter, 1949) contain geologic data on the report area. A report on the geology and hydrology of the nearby Towns of Huntington and Smithtown (Lubke, 1961) has been freely drawn upon for data in the parts of those towns included in the area covered by this report. Perlmutter and Crandell (1959) have described geologic conditions and the occurrence of ground water beneath the barrier beaches. Many of the well logs utilized in the subsurface mapping of geologic units are included in publications of the New York State Water Resources Commission (Leggette and others, 1938; Roberts and Brashears, 1945; and Johnson and others, 1952). Water-level measurements for some observation wells, records of daily discharge for gaging stations, and results of discharge measurements made at partial-record sites, are published in annual water-supply papers and open-file reports of the U.S. Geological Survey.

ACKNOWLEDGMENTS

The writers acknowledge the assistance of well drillers, the New York State Department of Public Works, and the Suffolk County Water Authority, in furnishing hydrologic and geologic data. The New York State Department of Health, the Suffolk County Department of Health, the Suffolk County Water Authority, and several privately owned laboratories furnished much of the chemical data included in the report. R. L. Barnell, formerly of the U.S. Geological Survey, supervised the construction of observation wells, and prepared a preliminary map of the water table.

GEOGRAPHY

TOPOGRAPHY

The Babylon-Islip area lies within the Atlantic Coastal Plain physiographic province and may be subdivided into a small northern region of irregular hills and a large southern region composed of a broad gently sloping plain. These topographic features are mostly [illegible]

geologic units mapped as Ronkonkoma terminal moraine and Mannetto Gravel (pl. 1). The highest land surface altitude on Long Island, about 400 feet above sea level, is on the Ronkonkoma terminal moraine, about 3 miles southwest of Huntington Station. Summit altitudes on the terminal moraine and adjacent hills are commonly as much as 150 feet or more above the outwash plain, which abuts the hills at an altitude of about 120 feet above sea level. The outwash plain is characterized by a gently rolling land surface, which slopes southward at about 20 feet per mile.

Marshlands, at or slightly above mean sea level, fringe the south shore of the area, adjacent to Great South Bay. The bay, which separates the main part of Long Island from the narrow low-lying barrier beaches, is generally less than 3 feet deep in the western part of the area and less than 10 feet deep in the eastern part. In boat channels the depth may be as much as 30 feet.

POPULATION

The substantial population upsurge in Suffolk County since 1950 is primarily the result of migration from New York City. Figure 2 illustrates the rate of population growth in the Towns of Babylon and Islip. The combined population of both towns was 117,021 in 1950, and 315,268 in 1960, an increase of nearly 170 percent. The Town of Babylon had a slightly greater rate of growth than the Town of Islip between 1950 and 1960, which was probably due to its closer location to New York City. The major factor contributing to urbanization of western Suffolk County is the improved rail and highway transportation.

With the exception of the northwestern part which is largely an area of cemeteries, population density in the Town of Babylon is fairly uniform (pl. 6). Centers of greatest population are near the south shore and in eastern parts of the town. In the Town of Islip, population density is greatest west of Connetquot River. Pilgrim State Hospital, the largest hospital in the world, is in the extreme northwestern part of the Town of Islip. Another center of high population density is Central Islip State Hospital, northeast of the headwaters of Champlin Creek. Large areas adjacent to and east of Connetquot River are still in their natural state. The extensive construction activity in western Suffolk County has just begun to reach the eastern part of the Town of Islip, which is still predominantly rural (1961).

INDUSTRY

Industrial growth in the Towns of Babylon and Islip has paralleled population growth. Industrialization of the area has resulted in large measure from decentralization of New York City's industrial core.

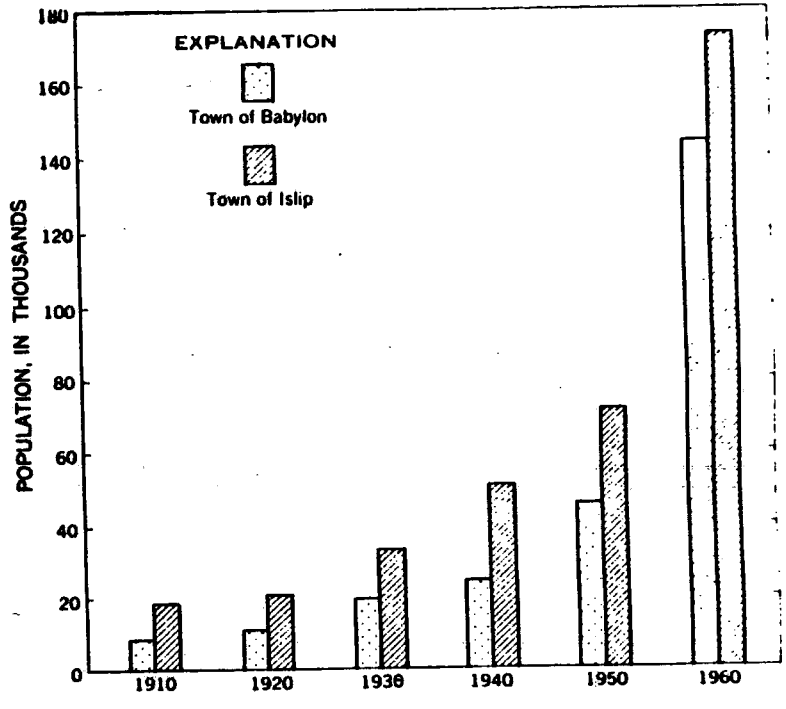


FIGURE 2.—Population of the Towns of Babylon and Islip, 1910-60.

Nearly two-thirds of the companies in the area have been established since the end of World War II. Most concerns are small, employing fewer than 100 people; however, two large plants, Republic Aviation Corp. and Fairchild Engine and Aircraft Co., each employ several thousand. Republic Aviation Corp., which is in the northwestern part of the Town of Babylon, is the largest industrial concern in Suffolk County, and employed 16,000 persons in 1958. Of the 625 industrial plants in Suffolk County in June 1956, nearly 60 percent were in the Towns of Babylon and Islip (Leonard and Stonier, 1956, p. 51).

The major industries in Suffolk County are aviation, instruments, electronics, and fabrication of metals; smaller industries include furniture, printing and publishing, textiles, and apparel. The aviation industry has been well established on Long Island since the end of World War I. Production of scientific and professional instruments came as a natural adjunct to the aviation industry. Similarly

the development of the all-metal airplane created a need for metal-fabricating shops. The post-World War II boom in electronics and electrical equipment found Suffolk County well prepared for the new industry owing to its established aviation firms, and the presence of the required skilled personnel.

AGRICULTURE AND VEGETATION

Although the value of crops produced and marketed in Suffolk County ranks highest of all the counties in New York State, agricultural production in the Babylon-Islip area is relatively small. The soils in the southern and eastern parts of the area have been classified by Lounsberry and others (1928, p. 13) as Sassafras Sandy Loam and Dukes Loamy Sand. These soils are not as productive as the soils in the northern and eastern parts of the county. The Sassafras Loam soils in the northwestern and north-central parts of the area are fairly productive. Proximity of this area to metropolitan markets spurred the development of numerous truck farms. The major crops produced by these farms are tomatoes, cauliflower, corn, string beans, peas, and cucumbers. Intensive urbanization, however, has reduced farm acreage so sharply that only a few farms remained in 1961.

Extensive tracts of natural vegetation are limited principally to the northern and eastern parts of the area. Much of the hilly area of the Ronkonkoma terminal moraine is forested with well-developed stands of deciduous trees. Low moisture retention characterizes the sandy, well-drained soils of the eastern part of the area and thereby precludes extensive forest development. Stands of scrub oak or pitch pine are common here in conjunction with an undergrowth of huckleberry, sweetfern, and wintergreen.

GEOLOGY

The composition, thickness, and geologic history of the deposits underlying the Babylon-Islip area determine the water-bearing characteristics, and the lateral and vertical extent of aquifers and aquicludes that form the hydrologic environment. The stratigraphy of the geologic formations is known almost exclusively from well records and samples, as outcrops, especially those of Cretaceous age, are rare.

STRATIGRAPHY

The Babylon-Islip area is underlain by unconsolidated sediments of Cretaceous, Tertiary, and Quaternary age, which lie on crystalline

member. Above the Raritan Formation is a thick sequence of deposits of late Cretaceous age which is in part, correlative with the Magothy Formation of New Jersey, but also includes some formations that are younger than the Magothy (Perlmutter and Crandell, 1959, p. 1066). Pending a more specific identification, these beds are referred to as the Magothy(?) Formation. Deposits of Quaternary, and possibly Tertiary age overlie the Cretaceous deposits. These consist, from oldest to youngest, of the Mannetto Gravel of doubtful Tertiary (Pliocene ?) age, the Gardiners Clay, and the upper Pleistocene and Recent deposits.

TABLE 1.—*Summary of stratigraphy of the Babylon-Islip area*

Era	Period	Epoch	Geologic unit		Remarks
Cenozoic	Quaternary	Recent	Recent deposits		Stream, beach, and marsh deposits; small areal extent.
		Pleistocene	Upper Pleistocene deposits		Till and outwash deposits of the Wisconsin Glaciation.
			Gardiners Clay		Fossiliferous marine clay of probable Sangamon age.
	Tertiary(?)	Pliocene(?)	Mannetto Gravel		Formerly believed to be an outwash deposit but now regarded as a stream-terrace deposit, small areal extent.
Mesozoic	Cretaceous	Late Cretaceous	Magothy(?) Formation		Interbedded sand, silt, and clay.
			Raritan Formation	Clay member	Dominantly clay but may contain some silty and sandy zones locally.
				Lloyd Sand Member	Sand, gravel, and interbedded clay and silt.
Precambrian and early Paleozoic(?)			Bedrock		Schist and gneiss containing some granitic intrusions.

THE BEDROCK

No wells in the Babylon-Islip area have reached bedrock. However, information obtained from wells in nearby parts of Long Island (Suter and others, 1949, p. 30–32, pls. 8 and 9) suggests that the bedrock in the area consists chiefly of schist and gneiss and contains some granitic intrusions. The bedrock is probably correlative in part with igneous and metamorphic rocks of Connecticut.

The bedrock surface dips southeastward at a rate of approximately 50 to 100 feet per mile. The altitude of the surface ranges from about 1,200 feet below sea level in the northwestern part of the area to about 1,800 feet below sea level in the extreme southeastern part. This bedrock surface represents the lower limit of the ground-water

RARITAN FORMATION

The Raritan Formation of Late Cretaceous age directly overlies the bedrock. It is divided into the Lloyd Sand Member below and an unnamed clay member above, and has been correlated with the Raritan Formation of New Jersey on the basis of lithology and stratigraphic position. Because the Raritan Formation has been penetrated by only one test well in the area, its lithology, thickness, and altitude are inferred from data obtained in adjacent areas.

LLOYD SAND MEMBER

The Lloyd Sand Member of the Raritan Formation lies directly on the bedrock surface. It has an estimated thickness of 150 to 300 feet, and is thickest in the southern part of the area. The altitude of the top of the Lloyd is estimated to be approximately 800 to 1,500 feet below sea level, being lowest in the southeast, under Fire Island. It is inferred from examination of cores from wells N3355 [1] and S6409 (1¼ miles northwest of the northwest corner of the Town of Babylon, and approximately 15 miles east of Lake Ronkonkoma, respectively), and the log of well S42 (pl. 1) that the Lloyd Sand Member underlying the area is probably composed of light-colored sand and gravel and lenses of clay and silty clay. Logs of several wells in eastern Suffolk County, indicate that the Lloyd Sand Member may be more clayey in that area, possibly because of a facies change along the northeasterly strike of the formation.

CLAY MEMBER

On the basis of descriptions of samples from wells in other parts of Long Island and the log of well S42 in the area, the clay member of the Raritan Formation probably consists of 170 to 300 feet of gray, blue, black, red and white clay, silt, and some very fine to fine sand. The altitude of the top of the clay member at well S42 in the northwest corner of the Town of Islip is 670 feet below sea level, and under Fire Island the clay member may be as much as 1,300 feet below sea level.

MAGOTHY(?) FORMATION

The Magothy(?) Formation of Late Cretaceous age has been completely penetrated by only one well (S42) in the area; therefore, its thickness and the nature of its contact with the underlying clay member of the Raritan Formation is known only approximately. The Magothy(?) is about 600 to 700 feet thick in the northern part of the area, and 1,000 to 1,200 feet thick in the southern part. The

[1] Wells in each county on Long Island are numbered serially by the New York State Water Resources Commission. The well number is prefixed by the initial letter of the county in which the well is located. Thus, well N3355 is in Nassau County and well S6409 is in Suffolk County.

altitude of the top of the formation ranges from 200 feet above to more than 100 feet below sea level. Relief on the Magothy(?) surface is due to stream erosion, mostly during late Pliocene and Pleistocene time. Contour lines on the Magothy(?) surface are shown on plate 2.

The Magothy(?) Formation consists mostly of nonfossiliferous beds and lenses of gray and white fine quartz sand, clayey and silty sand, and clay. However, the upper 50 to 200 feet of the formation beneath the barrier beaches consists of beds of fossiliferous green and gray glauconitic clay and sandy clay, which have been tentatively correlated with the Monmouth Group of New Jersey (Perlmutter and Crandell, 1959, p. 1066). Layers of lignite, pyrite, and iron-oxide concretions are common. Medium to coarse sand occurs in lenses irregularly throughout the formation, particularly in the upper and lower zones. West and north of the Babylon-Islip area, where the formation has been more fully explored, a gravel-bearing zone as much as 200 feet thick is found in the lower (basal) zone of the Magothy(?). Records of a few wells suggest that the gravelly zone occurs also in the area.

MANNETTO GRAVEL

The Mannetto Gravel, which consists of stratified and crossbedded quartz gravel, containing some highly weathered erratic material, was considered by Veatch (1906) and Fuller (1914) to represent the earliest deposit of Pleistocene age on Long Island. Currently it is considered to be of doubtful Tertiary (Pliocene(?)) age (Suter and other, 1949, p. 9) and probably correlative with the Bryn Mawr terrace-gravel deposits of Pennsylvania (Cooke, Gardiner, and Woodring, 1943).

The Mannetto Gravel has been recognized only in the northwestern part of the Babylon-Islip area where it crops out in the West and the Half Hollow Hills. It is difficult to distinguish the Mannetto in drillers' logs from the overlying glacial deposits, and its subsurface distribution is not well known.

PLEISTOCENE DEPOSITS

Deposits of Pleistocene age comprise the uppermost 50 to 150 feet of sediments in most of the area. The Jameco Gravel, a major aquifer in western Long Island, is not found in the Babylon-Islip area. The oldest formation of Pleistocene age is the Gardiners Clay, an interglacial deposit. The Gardiners Clay is overlain by upper Pleistocene deposits of Wisconsin age.

GARDINERS CLAY

The Gardiners Clay is a marine interglacial deposit of probable Sangamon age and has been recognized in wells along the south shore

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of the area (pl. 2). Generally it is not found more than a mile north of Great South Bay, although it occurs in the middle of Long Island, at Brookhaven National Laboratory (Weiss, 1954), 11 miles east of the Babylon-Islip area. The Gardiners Clay is overlain by upper Pleistocene deposits of Wisconsin age. It is difficult to determine the lower boundary of the Gardiners Clay from drillers' logs in some places because the underlying Magothy(?) Formation contains beds of similar lithology. The abundance of biotite and chlorite and the presence of foraminifers are used to differentiate the Gardiners from the Magothy(?) Formation where samples are available.

The Gardiners Clay is generally 20 to 40 feet thick, and the altitude of the top of the formation ranges from about 50 to 110 feet below sea level (p. 2). The formation consists of dark-colored clay, lenses of green silt and very fine sand, and thin layers of fine gravel. The layers of clay and silt are generally fossiliferous.

UPPER PLEISTOCENE DEPOSITS

The upper Pleistocene deposits include (a) outwash deposits of stratified medium to coarse sand and gravel, (b) terminal moraine deposits consisting of till and ice-contact deposits of stratified sand and gravel, (c) till, composed of unstratified clay, sand, gravel, and boulders in the form of ground moraine (not exposed), and (d) glaciolacustrine deposits of clay and silt (not exposed). The surficial distribution of the till and outwash deposits is shown on Plate 1.

Outwash is the most extensive upper Pleistocene deposit in the area. The outwash is underlain by the Gardiners Clay and Magothy(?) Formation, and is partly overlain by younger glacial and Recent deposits. The thickness of the outwash ranges from zero where it abuts Cretaceous and Tertiary sediments in the northwestern part of the area, to more than 100 feet in the eastern part. In parts of the area as much as 120 feet of poorly to well stratified ice-contact deposits are found above the outwash. These deposits form the bulk of the Ronkonkoma terminal moraine, a discontinuous ridge marking the maximum advance of a continental glacier. Quartz is by far the most abundant mineral in the outwash and ice-contact deposits; however, igneous and metamorphic rock particles, muscovite, biotite, and some heavy minerals are common in many beds.

A buried till sheet probably underlies the outwash deposits north of the Ronkonkoma moraine, but the till has not been definitely identified (Lubke, 1961, p. 38). A glacial clay, which underlies much of the Town of Smithtown (Lubke, 1961, p. 39), extends into the northeastern part of the area, but the data are too scanty to define the southern limit.

RECENT DEPOSITS

Deposits of Recent age are found along stream channels, in marshes and ponds, on the barrier beaches, and under Great South Bay. Stream channel deposits consist of a veneer of discontinuous reworked outwash deposits. Beds of very fine sand, silt, and clay are accumulating in marshes and ponds, and under Great South Bay. The barrier beaches consist of beach and dune sands as much as 50 feet thick. The Recent deposits commonly contain shells of mollusks.

GEOLOGIC HISTORY

A knowledge of the geologic history is important in understanding the nature and distribution of the geologic formations. The following summary is adapted largely from a report by Suter, and others (1949, p. 29–46).

During the Cretaceous Period, sediments derived from highlands in northeastern North America were deposited on a relatively flat bedrock surface sloping in a general southeasterly direction. The sediments thus deposited form a part of the present-day coastal plain extending from Long Island to the Gulf of Mexico. Long Island, which was approximately at the strand line of the Cretaceous sea, received mostly continental deposits. The great thickness of sediments deposited near sea level suggest concurrent depression of the bedrock surface during deposition. The variable and lenticular nature of the Cretaceous sediments indicates that deposition took place in shifting river channels, flood plains, swamps, and marshes.

The apparent absence of deposits of Tertiary age on Long Island, except for the nonmarine Mannetto Gravel, suggests either nondeposition or deposition followed by extensive erosion. The present distribution of the Mannetto Gravel is a remnant of the formerly extensive stream deposit.

Large continental glaciers, which were formed at the beginning of the Pleistocene Epoch, resulted in a general lowering of sea level. This lowering, in turn, caused stream rejuvenation and widespread erosion of pre-Pleistocene sediments and deepening of existing valleys. The area was drained then, as now, primarily by southward flowing streams, which cut partly into the Magothy(?) deposits but probably nowhere removed them completely. The eroded surface of the Magothy(?) is shown by contours on plate 2. The high area on the Cretaceous surface in the northwestern part of the area is a remnant of a dissected former divide between northward- and southward-flowing streams.

It is generally believed that the Pleistocene Epoch included four major glaciations, and therefore four cycles of eustatic sea level changes. The first three glacial advances did not reach Long Island

The only evidence of their presence near Long Island is the Jameco Gravel, an outwash deposit found in some parts of the island, but not in the Babylon-Islip area. The Gardiners Clay was deposited in shallow water during an interglaciation (Sangamon) when sea level was relatively high, but about 50 feet below its present altitude. The final, or Wisconsin glaciation of the Pleistocene Epoch, consisted of the Ronkonkoma and Harbor Hill stades. During the first Wisconsin ice advance, meltwater deposited outwash, which was partially overridden by the ice until stagnation occurred. During this stagnation period, stratified sand and gravel in the form of outwash was deposited south of the glacier by meltwater streams, and stratified ice-contact deposits were deposited along the southern terminus of the glacier to form the Ronkonkoma terminal moraine. Melting of the ice left a thin sheet of unstratified ground moraine, which was subsequently buried by younger outwash. The second Wisconsin ice advance did not move as far south as the first. Meltwater streams from the second advance deposited stratified sand and gravel north of the Ronkonkoma terminal moraine and, in places, breached the moraine so that Harbor Hill outwash may be found above the outwash of the Ronkonkoma Stade from which it cannot be distinguished readily.

Some of the large streams in the area did not erode their present valleys, but occupy valleys eroded by streams which issued from glaciers during the Pleistocene Epoch. The largest valleys in the area, those of Carlls River, Connetquot River, and Sampawams Creek, can be traced northward to breaches in the Ronkonkoma moraine (pl. 1).

Melting of the continental glaciers was accompanied by a rise in sea level to its present position. Erosion by stream and wave action is presently occurring simultaneously with deposition by these same agents.

HYDROLOGY

HYDROLOGIC ENVIRONMENT

Water in the Babylon-Islip area occurs in the interstices of unconsolidated sediments and in streams and ponds. The ground-water reservoir consists of saturated unconsolidated deposits ranging in thickness from 1,300 to 1,800 feet. The water table, which forms the boundary between the zone of saturation and the overlying zone of aeration (unsaturated zone), is the upper limit of the reservoir, and the impervious bedrock is the lower limit. Water in marshes, ponds, or streams in the Babylon-Islip area is nearly always hydraulically connected with the water table. The availability of ground water and surface water for man's use is controlled to a large extent by the physical characteristics of the aquifers, streams, and ponds. These characteristics include the capacity of ponds, size and gradient of streams, and the extent, nature of boundaries, and water-bearing properties of aquifers.

AQUIFERS

Three aquifers of wide areal extent are recognized in the deposits underlying the Babylon-Islip area: (a) a shallow water-table aquifer, (b) an intermediate artesian aquifer, and (c) a deep artesian aquifer. Perched water may occur locally in the northern part of the area in lenses of sand and gravel separated from the main water table by deposits of clay or glacial till. The hydrologic environment of perched-water bodies is similar to that of the water-table aquifer; except that perched-water bodies are small and localized and generally are not a dependable source of supply.

WATER-TABLE AQUIFER

The water-table aquifer is composed almost entirely of highly permeable upper Pleistocene deposits that constitute the uppermost zone of the ground-water reservoir. The upper surface of this aquifer is the water table, or top of the zone of saturation. The configuration of the water table (pl. 3) is controlled by the topography, and by the thickness, water-bearing properties, and quantity of recharge to and discharge from the aquifer.

The water table is a subdued replica of the topography. A conspicuous "high" on the water table occurs under the West Hills, south of Huntington Station, where the land surface reaches altitudes as high as 400 feet. Another "high" northeast of Lake Ronkonkoma is coincident in part with the Ronkonkoma terminal moraine where the land surface altitude is commonly as high as 300 feet. The saddle in the ground-water divide south of Hauppauge is probably largely the result of substantial quantities of ground-water discharge into the relatively deep valleys of the Nissequogue and Connetquot rivers, situated north and south of the divide, respectively.

Depth of the water table below land surface is shown on plate 4. In general, the depth to water increases northward from zero along Great South Bay and stream channels to as much as 200 to 300 feet beneath parts of the Ronkonkoma terminal moraine, West Hills, and Half Hollow Hills. The southern half of the area is drained by many effluent streams and depths to water are commonly 25 feet or less.

The lower boundary of the water-table aquifer is defined in most of the area by the occurrence of beds of predominantly low permeability in the upper part of the Magothy(?) Formation. Where the upper part of the Magothy(?) is composed of permeable material, these beds form a part of the water-table aquifer, and the lower surface of the

aquifer is at the first impermeable zone below the top of the Magothy(?). In the extreme southern part of the area, the Gardiners Clay forms the lower boundary of the water-table aquifer.

The water-table aquifer is present everywhere in the Babylon-Islip area, but it very thin in some places and contains salt water in others. In the northwestern part of the area, the water table is mainly in the Magothy(?) Formation rather than in upper Pleistocene deposits. As a result, the water-table aquifer is thin, owing to the clayey nature of most of the saturated beds. The Recent and upper Pleistocene deposits which compose the water-table aquifer beneath Great South Bay contain only salt water. Beneath the barrier beaches, fresh water in the water-table aquifer occurs in small discontinuous lenses in beach and dune deposits of Recent age. These fresh-water lenses are underlain by salt water.

The approximate thickness of the water-table aquifer may be determined by subtracting algebraically the altitude of the top of the Magothy(?) Formation, or Gardiners Clay where it is present (pl. 2), from that of the water table (pl. 3). The thickness of the water-table aquifer ranges from almost zero in the northwestern part of the Babylon-Islip area to more than 100 feet in the eastern part. The average thickness is about 75 feet. Wells screened in the outwash deposits yield as much as 1,500 gpm (gallons per minute). Specific capacities may be as high as 135 gpm per foot of drawdown, but are commonly 40 to 75 in thoroughly developed, large-diameter wells. The specific capacity of a well is a useful parameter for estimating water-bearing properties of an aquifer. Coefficients of transmissibility estimated from specific capacities (Theis and others, 1954) were used to compute the approximate coefficients of permeability of the outwash deposits given in the following table:

Estimated permeabilities of outwash deposits in the water-table aquifer

Well	Screened zone (ft below land)	Yield (gpm)	Specific capacity (gpm per ft)	Approximate thickness of aquifer (feet)	Field coefficient of permeability (gpd per sq ft)
S10,760T	50-81	500	37	73	800
S11,151	50-61	60	20	84	300
S12,016	50-85	1,525	98	67	2,200
S12,421	54-75	300	45	70	1,000
S12,710	40-70	1,500	100	75	1,600
S12,873	78-103	1,212	76	91	1,100
S13,476	35-60	330	42	70	900
S16,176	81-117	1,529	71	85	1,200
S16,608	116-140	1,000	77	88	1,200

The hydraulic coefficients of the water-table aquifer at one well near Central Islip State Hospital are given below:

Hydraulic coefficients of outwash deposits in the water-table aquifer

[Determination by the Hydrologic Laboratory, U.S. Geol. Survey]

Well	Depth (feet)	Specific retention (percent)	Specific yield (percent)	Porosity (percent)	Coefficient of permeability (gpd per sq ft)
S16,803	27-32	2.2	25	27.2	700

Because of the high permeability of the beds and generally shallow depth to the water table, wells are both productive and economical in most of the area underlain by outwash deposits (pl. 1). The water-table aquifer presently (1961) supplies approximately 84 percent of the total pumpage of ground water in the Babylon-Islip area.

INTERMEDIATE ARTESIAN AQUIFER

The intermediate artesian aquifer is composed of lenticular permeable deposits of the Magothy(?) Formation. The upper surface of the clay member of the Raritan Formation defines the lower boundary of the aquifer. Clayey and silty lenses in the upper part of the Magothy(?) Formation and the Gardiners Clay, where present, constitute the upper boundary. Unlike the top of the water-table aquifer, the upper boundary of the intermediate artesian aquifer generally is not a sharply defined surface such as the water table, but is a transitional zone of relatively low permeability. Where clayey confining beds are replaced by sandy zones, hydraulic continuity exists between the water-table and intermediate artesian aquifers.

Because permeable zones in the Magothy(?) Formation are lenticular, it is difficult to predict their occurrence and thickness, except for a basal zone. As in many parts of western Long Island, an extensive zone of sand and gravel about 100 feet thick probably lies immediately above the clay member of the Raritan Formation in the Babylon-Islip area but the data are too scanty to permit mapping the zone as a separate unit. (See well S42, pl. 1.) Test drilling is generally necessary to locate permeable zones which can yield as much as 1,500 gpm to individual wells. Specific capacities of wells range from 1 to 49 gpm per foot of drawdown. Those wells tapping zones composed chiefly of sand and gravel commonly have specific capacities ranging from 20 to 40 gpm per ft. The method of computing transmissibilities

from specific capacities (Theis and others, 1954) yields only approximate values for the intermediate artesian aquifer because of the unknown effects of partial penetration and the heterogeneous nature of the aquifer. However, in the absence of other laboratory or field determinations, the specific capacity is used as a means of estimating the coefficients of transmissibility of the aquifer. Coefficients of transmissibility estimated from specific capacities of four wells screened in various zones of the aquifer were used to compute the coefficients of permeability listed in the following table:

Estimated permeabilities of water-bearing zones in the intermediate artesian aquifer

[Thickness of water-bearing zone determined from well log]

Well	Screened zone (feet below mean sea level)	Thickness of water-bearing zone (feet)	Specific capacity (gpm per ft)	Field coefficient of permeability (gpd per sq ft)
S11279	276-308	59	9.5	400
S14583	106-132	89	13.9	400
S15775	180-220	68	31.7	800
S16256	500-552	76	35.7	1,200

Wells S15775 and S16256 are screened in coarse sand and gravel whereas wells S11279 and S14583 are screened in fine to medium sand. Hence on the basis of data in the above table, approximate coefficients of permeability of 1,000 gpd (gallons per day) per square foot and 400 gpd per sq ft may be assumed for coarse sand and gravel and for fine to medium sand, respectively. The aquifer also consists of lenses of very fine to fine sand, silt, and clay, for which an average permeability of 20 gpd per sq ft may be assumed (Wenzel, 1942, p. 13). Based on the geologist's log of well S42 (Leggette and others, 1938, p. 30–32) 29 percent of the intermediate aquifer is sand and gravel, 52 percent is predominantly sand, and 19 percent is fine sand, silt, and clay. On the basis of these data, the average coefficient of permeability of the intermediate aquifer is estimated to be about 500 gpd per sq ft.

DEEP ARTESIAN AQUIFER

The deep artesian aquifer is the lowermost water-bearing zone in the ground-water reservoir. Its boundaries coincide with those of the Lloyd Sand Member of the Raritan Formation. Although no wells penetrate the deep artesian aquifer, it probably underlies the entire area. The bedrock, which contains only small quantities of water, marks the lower limit of the deep aquifer. The upper limit is at the base of the clay member of the Raritan Formation which acts as an effective confining unit for the deep artesian aquifer.

Specific capacities of 10 to 20 gpm per ft of drawdown are commonly reported for wells tapping the Lloyd Sand Member in Nassau

County. Test wells screened in the Lloyd in central Suffolk County at Brookhaven National Laboratory had specific capacities of only 2.0 and 2.5 gpm per ft. If the Lloyd becomes increasingly clayey to the east (as the scanty data suggest), specific capacities of wells may range from about 10 to 20 gpm per ft in the western part of the area and 5 to 15 gpm per ft in the eastern part.

STREAMS AND PONDS

Surface-water resources have played a significant role in the growth of Long Island since its original settlement. Early industrial requirements focused on a need for power to operate sawmills and gristmills. The first gristmill in the Babylon-Islip area was constructed about 1860 on Connetquot River (Sander, 1954, p. 64). Artificial ponds were developed on many streams to supply the head required to drive water wheels. When steam and electric power came into use, gristmills and sawmills were abandoned, and now the principal use of streams and ponds is for recreation.

To meet demands for water by New York City, the surface-water resources of Nassau County were intensively developed in the early 1900's. A plan was proposed shortly thereafter to tap about 10 large streams in Suffolk County for additional supplies. The plan was abandoned only after strong protests were voiced throughout the county, especially by officials who envisioned the day when this invaluable resource might be required for local use. A county-wide plan is now in effect to purchase and preserve, in its natural state, land bordering on the few remaining undeveloped streams to be used for recreation and conservation.

All major streams in the area flow in a southerly direction, and, in general, are less than 3 miles long. The largest streams are Carlls River in the Town of Babylon, and Connetquot River in the Town of Islip. Both streams have fairly well developed tributary systems, and extend approximately 5 miles above the head of tidewater. All streams have gentle gradients that average about 2 feet per 1,000 feet.

With the exception of Lake Ronkonkoma, almost all ponds in the area are manmade. In the late 1800's ponds were utilized for industrial purposes; however, most are used only for recreation at present. Lake Ronkonkoma occupies a kettle hole whose bottom extends about 60 feet below the water table. The lake has a surface area of about 220 acres. The total area of all ponds and lakes is about 1.4 square miles or 0.7 percent of the total Babylon-Islip area.

HYDROLOGIC CYCLE

The term "hydrologic cycle" denotes the general circulation of water in its various states (liquid, solid, or gaseous) from ocean to

atmosphere, from the atmosphere over and through the ground, and back to the ocean again.

Atmospheric water vapor will, if favorable conditions exist, condense into tiny droplets which increase in size until they can no longer be supported by air currents. If temperatures are above freezing, water vapor will precipitate as rain. If temperatures are at or below freezing during the condensation process, water vapor will precipitate as snow, sleet, or hail.

The time required for precipitation to return to the atmosphere depends principally upon the nature of the incident surface. Impervious or water-saturated surficial deposits cause precipitation to flow overland into streams or ponds. Precipitation falling upon and retained by vegetal surfaces will evaporate and return directly to the atmosphere. Some of the precipitation reaching the land surface will also evaporate; however, a substantial part will infiltrate into the ground if the soil is permeable. The first demand the infiltrating water must satisfy is that of the soil. Soil moisture is depleted primarily by vegetation and direct-surface evaporation. After soil-moisture requirements are fulfilled, residual water percolates slowly downward through interstices in the earth materials underlying the soil zone until it reaches the ground-water reservoir. While in the ground-water reservoir, the water moves slowly down gradient and is discharged into streams, bays, and the ocean. After discharge into the ocean, water completes the hydrologic cycle by eventually returning to the atmosphere by evaporation.

QUANTITATIVE HYDROLOGY

One of the principal objectives of this report was to evaluate the water balance for the ground-water reservoir. The accomplishment of this objective requires the collection and interpretation of data on precipitation, ground-water levels, and streamflow. These data are [illegible] the framework of the hydrologic year.

In evaluating the water balance, the inflow or recharge to the ground-water reservoir is equated to the outflow or discharge, plus or minus changes in the reservoir storage. Recharge is essentially equal to discharge if the period of study selected is long enough to minimize the effect of changes in ground-water storage. The hydrologic factors affecting the water balance include precipitation, ground-water runoff, direct runoff, evapotranspiration, and underflow.

Precipitation, the largest factor, is fortunately the easiest to measure. Five U.S. Weather Bureau cooperative stations in or near the area have records of sufficient length to be of value in determining average precipitation. The average streamflow of the area was computed

from the existing network of primary, secondary, and partial-record gaging stations. That part of total streamflow which reflects direct runoff was computed from an anlaysis of the discharge hydrographs of the primary gaging stations; the remainder of the streamflow represents ground-water runoff. Precipitation and streamflow are the factors most amenable to quantitative analysis. Estimates of evapotranspiration losses are much more difficult to obtain. These estimates depend on studies made in nearby areas where geologic conditions do not preclude computing evapotranspiration indirectly. Ground-water evapotranspiration was computed from an analysis of water-table fluctuations in a part of the area where such losses are significant. The only unknown factor in the water-balance equation for the area is underflow at the north shore of Great South Bay (submarine outflow) which, therefore, may be computed from the equation.

To evaluate the various hydrologic factors, it is desirable to compute data for a period common to all. Too, as previously noted, it is essential to choose a period of sufficient length to eliminate the effect of change in storage in the ground-water reservoir. The period selected for study was the 1944–59 water years which corresponds to the length of the longest streamflow record in the Babylon-Islip area. Hence, all computations represent the averages for this period and may be assumed to be approximately equivalent to the true long-term averages.

PRECIPITATION

Precipitation in its various forms is the source of all water on Long Island. A favorable geographic location with respect to available sources of moisture provides Long Island with an abundant and fairly uniform supply of precipitation throughout the year. The two principal meteorological factors which produce precipitation on Long Island are the active extra-tropical cyclonic disturbances most prevalent from November through April, and local convective summer storms. A secondary source of precipitation is tropical cyclones, often of spectacular size, but fortunately of infrequent occurrence. The primary sources of moisture for all storms affecting Long Island are the Gulf of Mexico and the southwestern part of the North Atlantic Ocean.

There are no long-term rainfall stations within the Babylon-Islip area; however, the records for Farmingdale, Babylon, and Brentwood (pl. 7), are of sufficient length to be of value in computing the mean annual precipitation for the base period. In addition, the rainfall stations at Patchogue (pl. 7) and Setauket (fig. 1), although outside the area, are considered to be sufficiently close that their records may be given some weight in determination of mean annual precipitation. With the

exception of the records for Setauket, which data back to 1886, the records of these stations go back less than 25 years.

Precipitation is heaviest in the south-central part of the Babylon-Islip area, as comparison of the mean annual precipitation at Babylon with other stations in or near the area shows (table 2). Somewhat heavier precipitation than that recorded at Babylon may occur in the hilly region of the northern part of the area; however, owing to lack of data, the orographic influence is not known. The apparent heavier rainfall at Babylon may be due to any one, or to a combination of, the following reasons: (a) proximity to the ocean, (b) local effects such as rain-gage exposure, or (c) to chance. A comparison of the mean annual precipitation at New York City and Setauket for the base period (1944–59 water years) with the long-term averages in table 2 indicates only slight variations. For example, average preciptation during the base period was about three-quarters of an inch greater than that for the long-term period at New York City, and less than a quarter of an inch lower than at Setauket. It may be inferred, therefore, that a water balance computed for the base period will be representative of the long-term averages. For the Babylon-Islip area, the mean annual precipitation for the base period was computed to be 46.3 inches by the Thiessen method (Williams, 1950, p. 276–278). Only slight weight was given to the Setauket record in the computations and none at all to that of New York City, which is too distant from the area.

TABLE 2.—*Mean, maximum, and minimum annual precipitation, in inches, for selected stations*

Station	Period of record	Mean	Maximum	Minimum	Mean for base period (1944–59)
New York City	1826–1959	42.2	59.7	28.8	43.0
Setauket	1886–1959	45.0	59.3	33.6	44.8
Farmingdale	(1)	45.9	56.6	39.4	[2] 46.3
Babylon	1939–59	48.6	56.7	38.7	48.7
Brentwood	1942–59	46.0	60.0	36.4	45.9
Patchogue	1938–59	45.0	58.5	36.0	45.0

[1] 1921–22, 1926–33, 1940–56.
[2] Adjusted to base period.

On the basis of the records for Setauket and New York City for the period 1886–1960, annual precipitation may be expected to range from 30 to 60 inches in the area (fig. 3). If the 74-year record at Setauket is considered representative of average precipitation in the area, the curve in figure 3 may be used to predict future rainfall. For example, the probability is about three chances in five that annual precipitation in any one year will be between 40 and 50 inches.

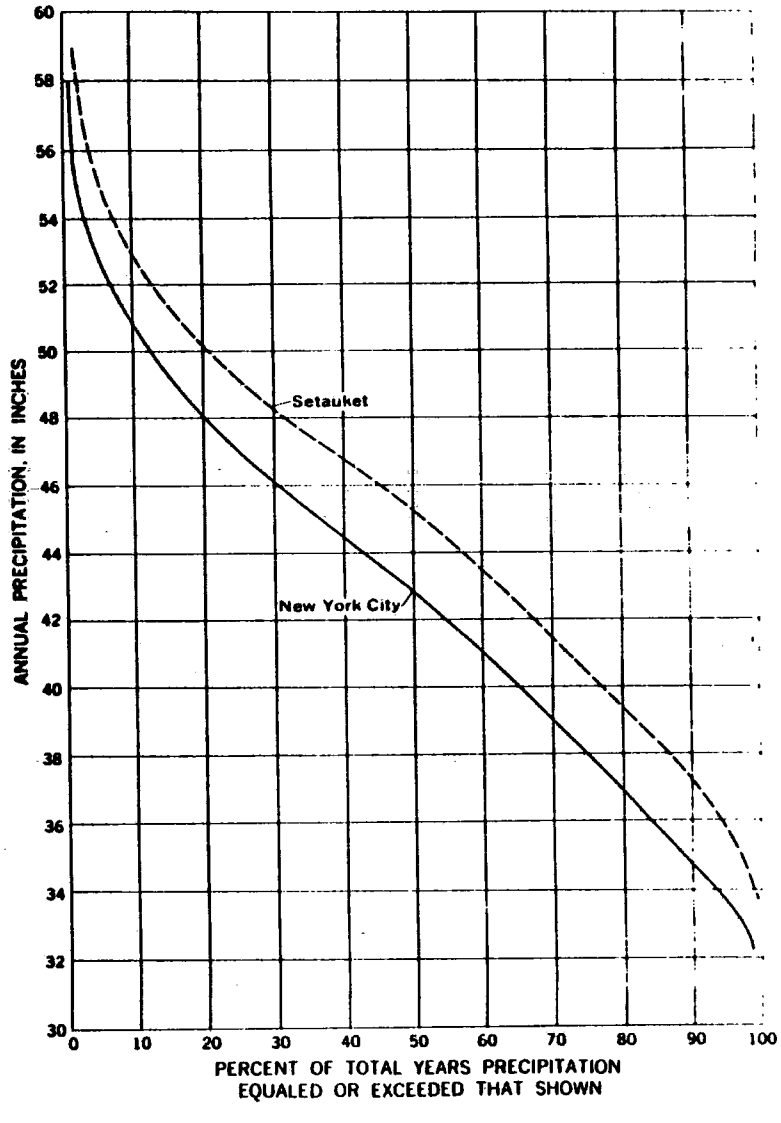
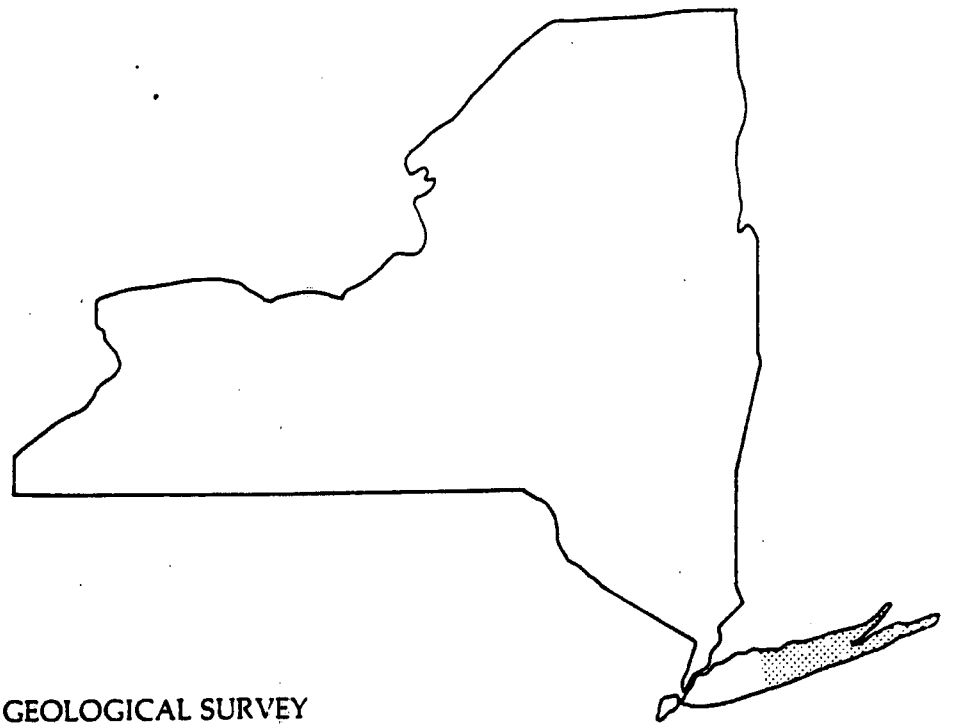


FIGURE 3.—Annual precipitation-duration curves for New York City and Setauket, 1886-1960.

2.1.16

Hydrogeologic Data from Selected Wells and Test Holes in Suffolk County, Long Island, New York, 1972-80



U.S. GEOLOGICAL SURVEY
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SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
SUFFOLK COUNTY WATER AUTHORITY

2.2.16

HYDROGEOLOGIC DATA FROM SELECTED WELLS AND TEST HOLES IN SUFFOLK COUNTY, LONG ISLAND, NEW YORK, 1972-80

By Richard K. Krulikas

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Syosset, New York

1981

Table 2.--Explanation (continued)

Water Level (feet below land-surface datum)

The water level given is the reported original static water level, in feet above or below land surface, when the well was completed.

Date of Measurement

The date of water-level measurement is given by month (M), day (D), and year (Y).

Lift Type

The following abbreviations indicate the type of pump or other conveyance known or assumed to have been used in 1977 to bring water to the surface.

CENT	centrifugal	TURB	turbine
JET	jet	NONE	no pump in well
SUBM	submersible	OTHR	some other type of lift

Aquifer Developed

The following abbreviations indicate the hydrogeologic unit that yields water to the well. Where two or more units yield water to the well, the probable principal unit is given.

UPGLAC	Upper glacial aquifer
GARD	Gardiners Clay
MONMOUTH	Monmouth greensand
MAGOTHY	Magothy aquifer
RARITAN	Raritan clay
LLOYD	Lloyd aquifer

Table 2.--Explanation (continued)

Specific Capacity

The value in this column is the number of gallons per minute pumped from the well per foot of drawdown in the well, as reported by drillers.

Abbreviations

COORD	coordinates
D	day
DIAM	diameter
FT	feet
GPM/FT	gallons per minute pumped per foot of drawdown in the well
IN	inches
LSD	land surface datum
M	month
MEAS	measurement
NGVD	National Geodetic Vertical Datum of 1929.
Y	year

Table 3.—Hydrologic units and well-completion data

Well number	Location of well: Map coord	Location of well: Latitude and Longitude	Well depth (ft)	HYDROLOGIC UNIT PENETRATED AND ELEVATION OF UNIT SURFACE, IN FEET ABOVE OR BELOW NATIONAL GEODETIC VERTICAL DATUM OF 1929: Upper glacial aquifer	Gardiners Clay	Monmouth greensand	Magothy aquifer	Raritan clay	Lloyd aquifer	Bedrock
18075	D10	404707 0731905.01	627	110			-155			
18261	D10	404707 0731905.01	388	110						
18621	D10	404704 0731914.01	201	110						
19767	F10	405506 0731841.01	28	15						
20041	C 8	404444 0732511.01	268	80			-280			
20042	C 8	404444 0732511.02	585	80						
21734	F 8	405519 0732939.01	453	64			-298			
22303	B10	403621 0731820.01	285	10	- 62					
22548	D10	404705 0731907.01	415	114			-145			
22823	D11	404948 0731328.01	400	125			-151			
23433	D18	404841 0723935.01	321	15						
23462	D11	404813 0731328.01	400	125			-103			
23524	E13	405158 0730300.01	446	110						
23609	E12	405319 0730829.01	484	125						
26247	E 9	405058 0732338.01	447	178			-324			
26490	D11	404505 0731317.01	110	40						
26600	E12	405200 0730855.01	323	123						
26681	E 8	405246 0732521.01	600	10	-113					
29743	F24	405356 0720639.01	302	50				-390	-470	
29823	D 9	404521 0732252.01	622	76		-120	-239			
							- 6			
30008	E 9	405058 0732338.01	488	185						
30114	B 9	408800 0732034.01	327	10	-100					
30118	D12	404914 0730956.03	192	58			-133			
30421	D 9	404718 0732453.01	272	125						
30506	D 9	404515 0732255.01	621	75						
							1			
31269	F13	405512 0730105.03	337	138						
31711	E11	405143 0731100.01	600	125			- 94			
31734	E13	405455 0730258.02	1125	165						
31976	F18	405936 0723542.01	112	65			- 55	-573	-730	
32821	F12	405614 0730610.01	600	75						
							3	-495		
33060	E12	405157 0730740.01	410	95						
33203	E12	405149 0730756.01	580	95						
33204	E12	405149 0730752.01	517	95						
33205	E12	405150 0730748.01	436	93						
33206	E12	405154 0730801.01	581	93						
33991	D11	404511 0731127.01	696	35	-68					
34016	E13	405156 0730451.01	712	95			- 93			
34651	E12	405147 0730740.01	417	94						
34652	E12	405148 0730755.01	102	94						
34653	E12	405149 0730801.01	700	93						
34893	F14	405517 0725749.01	840	125						
36448	F15	405627 0725407.01	404	132			-555	-719		
36711	E14	405333 0725629.01	143	81						
36965	F22	405639 0721811.01	161	52			- 83			
37140	D11	404510 0731123.01	330	35	-69					
							- 86			
37276	D11	404918 0731330.01	400	40						
37494	D14	404717 0725956.03	622	60						
37991	E15	405456 0725327.01	141	102			-300			
38035	D 9	404723 0732453.01	450	130						
38194	F14	405652 0725900.02	775	157						
								-593		
38320	D13	404756 0730255.02	173	75						
38321	D13	404756 0730255.03	303	63						
38595	E12	405257 0730501.01	605	108			-133			
38784	E13,	405256 0730456.02	603	105			-200			
38785	E 9	405135 0732355.01	701	202			-200			

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from selected wells and test holes in Suffolk County, New York.

WELL-COMPLETION DATA

Well Number	Year Completed	Elevation of LSD (ft above or below NGVD)	Use of Water	Use of Well	Screen Setting (ft above or below NGVD)	Total Screen Length (ft)	Diam of Well (in)	Water level (ft below LSD)	Date of Meas. (M-D-Y)	Lift Type	Aquifer Developed	Specific Capacity (GPM/ft)
18075	1959	110	UNSD	TEST							MAGOTHY	
18261	1960	110	P.S.	WTDR	-180 TO -263	83	16	60	01-13-60		MAGOTHY	
18621	1960	110	P.S.	WTDR	- 34 TO - 91	57	36	51	05-23-60		UPGLAC	34
19767	1961	15	IRR	WTDR							UPGLAC	
20041	1962	80	P.S	WTDR	-110 TO -188	78	12	25	09-05-61	TURB	UPGLAC	75
20042	1962	80	P.S.	WTDR	-444 TO -505	61	20	25	07-15-61	TURB	MAGOTHY	40
21734	1962	64	DOM	WTDR	-377 TO -389	12	6				UPGLAC	
22303	1963	10	COM	WTDR	-263 TO -275	12	4				MAGOTHY	
22548	1964	114	UNSD	UNSD	-233 TO -289	56	42				MAGOTHY	
22823	1964	125	IND	WTDR	-224 TO -275	51	12				MAGOTHY	
23433	1965	15	IRR	WTDR	-255 TO -306	51	10	4	03-02-65		MAGOTHY	
23462	1965	125	UNSD	UNSD	-249 TO -275	26	12				UPGLAC	
23524	1965	110	P.S.	WTDR	-210 TO -326	116	16	66	08-25-65	TURB	UPGLAC	41
23609	1965	125	FRPT	WTDR	-329 TO -359	30	10	94	05-01-65	TURB	MAGOTHY	36
26247	1965	178	P.S.	WTDR	- 86 TO -269	183	20	133	12-14-65	TURB	MAGOTHY	79
26490	1965	40	P.S.	WTDR	- 32 TO - 67	35	30	17	06-28-65	TURB	UPGLAC	60
26600	1966	123	UNSD	TEST	-147 TO -167	20	8	82	03-11-66		UPGLAC	3
26681	1966	10	P.S.	WTDR	-515 TO -587	72	16	7	04-24-66		UPGLAC	15
29743	1967	50	UNSD	OBS	- 89 TO -100	11	6	45	01-11-67		MAGOTHY	2
29823	1967	76	UNSD	TEST							MAGOTHY	
30008	1967	185	P.S.	WTDR	-238 TO -298	60	20	137	03-20-67	SUBM	MAGOTHY	61
30114	1967	10	IRR	WTDR	-134 TO -200	66	10	8	05-22-67	TURB	MAGOTHY	4
30118	1967	58	P.S.	WTDR	- 93 TO -134	51	16				UPGLAC	
30421	1967	125	ARCD	WTDR				67	07-07-67	TURB	UPGLAC	6
30506	1967	75	P.S.	WTDR	-471 TO -543	62		26	07-25-67		MAGOTHY	41
31269	1967	138	UNSD	TEST			6				MAGOTHY	
31711	1967	125	UNSD	TEST							MAGOTHY	20
31734	1967	165	UNSD	TEST							MAGOTHY	
31976	1967	65	IND	WTDR	- 16 TO - 47	31	12			TURB	UPGLAC	
32821	1968	75	UNSD	TEST							MAGOTHY	
33060	1968	95	ARCD	WTDR	-262 TO -315	53	16				UPGLAC	
33203	1968	95	OTHR	RECH	-425 TO -485	60	16	50	08-29-68		UPGLAC	75
33204	1968	95	OTHR	RECH	-361 TO -422	61	16	53	09-17-68		UPGLAC	37
33205	1968	93	ARCD	WTDR	-282 TO -343	61	16	50	09-20-68	TURB	UPGLAC	36
33206	1968	93	OTHR	RECH	-428 TO -488	60	16	53	08-13-68		UPGLAC	40
33991	1968	35	UNSD	TEST							MAGOTHY	
34016	1968	95	UNSD	OBS			8				MAGOTHY	
34651	1969	95	ARCD	WTDR	-258 TO -318	60	16	46	04-10-69	TURB	UPGLAC	27
34652	1969	95	ARCD	WTDR	- 45 TO - 76	31	16	32	03-12-69	TURB	UPGLAC	52
34653	1969	93	UNSD	OBS	-505 TO -607	102	8	49	03-13-69		UPGLAC	54
34893	1969	125	UNSD	OBS							MAGOTHY	
36448	1969	132	UNSD	OBS			10				UPGLAC	
36711	1970	81	UNSD	OBS	- 28 TO - 58	30	12	55			UPGLAC	239
36965	1970	52	P.S.	WTDR	- 71 TO -101	30	12	36	04-15-70	TURB	UPGLAC	
37140	1970	35	P.S.	WTDR	-225 TO -295	70	20	18	03-13-70		MAGOTHY	39
37276	1970	40	ARCD	WTDR	-309 TO -359	50	36	13	05-01-70	TURB	UPGLAC	40
37494	1970	60	UNSD	UNSD			42				MAGOTHY	
37991	1970	102	P.S.	WTDR	- 13 TO - 39	26	16	45	09-14-70	TURB	UPGLAC	49
38035	1970	130	UNSD	UNSD			38				UPGLAC	
38194	1970	157	P.S.	WTDR	-513 TO -573	60	20	133	12-10-70		UPGLAC	21
38320	1970	75	P.S.	WTDR	- 35 TO - 82	47	20	39	11-18-70		UPGLAC	54
38321	1971	63	P.S.	WTDR	-176 TO -237	61	20	38	01-08-71		MAGOTHY	40
38595	1970	105	UNSD	TEST							MAGOTHY	
38784	1970	105	P.S.	WTDR	-422 TO -492	70	20	44	09-23-71	TURB	MAGOTHY	
38785	1971	202	P.S.	WTDR	-370 TO -461	91	20	157	03-30-71		UPGLAC	67

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Table 2.--Hydrologic units and well-completion data

Well number	Location of well: Map coord	Location of well: Latitude and Longitude	Well depth (ft)	HYDROLOGIC UNIT PENETRATED AND ELEVATION OF UNIT SURFACE, IN FEET ABOVE OR BELOW NATIONAL GEODETIC VERTICAL DATUM OF 1929: Upper glacial aquifer	Gardiners Clay	Monmouth greensand	Magothy aquifer	Raritan clay	Lloyd aquifer	Bedrock
38916	E12	405418 0730649.02	845	227			- 27	-563		
39184	E12	405147 0730804.01	700	93						
39185	E12	405147 0730805.02	619	93						
39186	E12	405147 0730803.03	683	93						
39187	E12	405147 0730804.04	698	95						
39333	E11	405208 0731314.01	658	64			-422			
39347	E12	405054 0730909.01	176	128						
39518	E11	405118 0731238.01	725	76			- 64	-684		
39531	D11	404614 0731230.01	289	53			-105			
39535	B11	403819 0731117.01	461	5	- 92	- 98	-313			
39536	E 9	405345 0732038.01	615	173						
39709	C 8	404556 0732522.01	705	85			-268			
40057	E12	405016 0730903.01	623	110			-154			
40161	E14	405335 0725629.02	138	80						
40331	E13	405221 0730212.01	694	87			-408			
40333	E10	405236 0731709.01	525	110						
40407	F19	405636 0723448.01	140	10						
40497	D10	404606 0731746.02	284	74	- 50		- 64			
40498	C 9	404230 0732041.01	748	24	- 54		- 60			
40709	E13	405223 0730219.01	485	90						
40710	E11	405207 0731314.01	463	70			-295			
40711	E11	405209 0731314.01	273	70						
40818	D12	404610 0730507.01	754	55	-101		-113			
40837	F13	405510 0730453.02	810	195			- 81	-573		
40838	F13	405510 0730453.02	294	195			- 81			
40980	E12	405418 0730649.01	578	225			1			
40981	D12	404820 0730735.01	694	100			-124			
41341	D14	404807 0725907.01	703	73			-127			
41342	E12	405021 0730624.01	663	130			-384			
41343	E13	405217 0730116.01	650	110			-186			
41344	D11	404919 0731428.01	693	79			- 47			
41345	E10	405249 0731928.01	807	237						
41358	B10	403817 0731633.02	290	10	- 73		-280			
41313	E12	405120 0730824.01	719	108			-149			
42053	E11	405032 0731407.01	713	50			- 56			
42054	E11	405043 0731229.01	723	40			-240			
42225	E 9	405015 0732342.01	790	110						
42226	E12	405015 0730902.01	270	110						
42227	E12	405016 0730903.01	253	110						
42270	E11	405119 0731237.00	649	76			- 64			
42473	E11	405119 0731237.02	649	76			- 64			
42504	E13	405215 0730115.01	223	110						
42505	E13	405213 0720113.02	233	110						
42760	E12	405054 0730509.02	173	130						
42761	D13	404756 0730255.01	333	75			-115			
42762	C10	404305 0731614.01	714	26	- 36		- 64			
42827	D11	404511 0731123.01	663	35	- 62		- 92			
43001	E 8	405113 0732609.01	590	230				-337		
43010	D16	404804 0724838.01	700	20	- 76	- 94	-144			
43088	D10	404640 0731521.01	902	90			- 80	-772		
43101	E13	405140 0730240.01	703	40			-116			
43117	E13	405256 0730456.03	552	102			-305			
43516	D13	404618 0730356.01	803	55			-101			
43808	C 8	404323 0732534.01	59	66						
43810	C 9	404124 0732416.02	76	30						

2.10.16

from selected wells and test holes in Suffolk County, New York.

WELL-COMPLETION DATA

Well Number	Year Completed	Elevation of LSD (ft above or below NGVD)	Use of Water	Use of Well	Screen Setting (ft above or below NGVD)	Total Screen Length (ft)	Diam of Well (in)	Water level (ft below LSD)	Date of Meas. (M-D-Y)	Lift Type	Aquifer Developed	Specific Capacity (GPM/ft)
38916	1971	227	UNSD	TEST							MAGOTHY	
39184	1971	93	ARCD	RECH	-507 TO -607	100	10				UPGLAC	
39185	1971	93	ARCD	RECH	-426 TO -526	100	10				UPGLAC	
39186	1971	93	ARCD	RECH	-490 TO -590	100	10				UPGLAC	
39187	1971	95	ARCD	RECH	-503 TO -603	100	10				UPGLAC	
39333	1971	64	UNSD	TEST	-546 TO -568	22	16	33	04-09-71		MAGOTHY	
39347	1971	128	P.S.	WTDR	- 8 TO - 48	40	10	69	07-06-71		UPGLAC	109
39518	1971	76	UNSD	TEST	-514 TO -614	100	8	47			MAGOTHY	
39531	1971	53	P.S.	WTDR	-149 TO -219	70	20	23	10-01-71	TURB	MAGOTHY	37
39535	1971	5	P.S.	WTDR	-313 TO -456	143	12	FLOWING	12-20-72	TURB	MAGOTHY	
39536	1971	173	P.S.	WTDR	-362 TO -442	80	20	155	09-01-71	TURB	UPGLAC	30
39709	1971	85	P.S.	WTDR	-565 TO -620	55	20	36	07-21-71	TURB	MAGOTHY	3
40057	1971	110	UNSD	TEST							MAGOTHY	
40161	1971	80	P.S.	WTDR	- 14 TO - 54	40	20	43	07-28-71	TURB	UPGLAC	35
40331	1971	87	P.S.	WTDR							UPGLAC	
40333	1972	110	UNSD	WTDR	-405 TO -415	10	6	74	08-27-72	SUBM	UPGLAC	7
40407	1971	10	FRPT	WTDR	-109 TO -129	20	16	4	09-13-71		UPGLAC	
40497	1971	74	P.S.	WTDR	-150 TO -210	60	10	32		TURB	MAGOTHY	44
40498	1972	24	P.S.	WTDR	-648 TO 718	70	20	4	05-10-72	TURB	MAGOTHY	54
40709	1971	90	P.S.	WTDR	-330 TO -390	60	20	37	10-12-71		UPGLAC	87
40710	1971	70	P.S.	WTDR	-297 TO -387	90	20	33	10-28-71		MAGOTHY	126
40711	1971	70	P.S.	WTDR	-153 TO -203	50	20	37	09-08-71		UPGLAC	80
40818	1971	55	UNSD	TEST			6				MAGOTHY	
40837	1972	195	P.S.	WTDR	- 38 TO - 92	54	20	160	01-10-72	TURB	MAGOTHY	9
40838	1972	195	P.S.	WTDR	- 44 TO - 99	55	20	162	04-04-72	TURB	UPGLAC	10
40980	1972	225	P.S.	WTDR	-279 TO -348	69	20	191	02-10-72	SUBM	MAGOTHY	30
40981	1971	100	UNSD	TEST	-555 TO -575	20	8	58	11-02-71		MAGOTHY	7
41341	1972	73	UNSD	TEST							MAGOTHY	
41342	1972	130	UNSD	TEST							MAGOTHY	
41343	1971	110	UNSD	TEST							MAGOTHY	
41344	1971	79	UNSD	TEST							MAGOTHY	
41345	1972	237	UNSD	TEST							UPGLAC	
41358	1972	10	UNSD	UNSD							MAGOTHY	
41513	1972	108	UNSD	TEST			14				MAGOTHY	
42053	1972	50	UNSD	TEST							MAGOTHY	
42054	1972	40	UNSD	TEST			18				MAGOTHY	
42225	1972	110	P.S.	WTDR	-580 TO -680	100	20	114	04-21-72	SUBM	MAGOTHY	48
42226	1972	110	P.S.	WTDR	- 95 TO -157	62	20	65	04-10-72		UPGLAC	73
42227	1972	110	P.S.	WTDR	- 78 TO -140	62	20	65	01-31-72		UPGLAC	54
42270	1972	76	UNSD	UNSD	-499 TO -573	74	20	47	01-31-72		MAGOTHY	23
42473	1972	76	UNSD	UNSD	-503 TO -573	70	20	45	02-08-72	TURB	MAGOTHY	24
42504	1972	110	P.S.	WTDR	- 51 TO -117	66	20	53	06-28-72		UPGLAC	
42505	1972	110	P.S.	WTDR	- 63 TO -123	60	60	68	06-26-72		UPGLAC	
42760	1972	130	P.S.	WTDR	- 7 TO - 43	36	20	72	08-28-72	TURB	UPGLAC	102
42761	1972	75	P.S.	WTDR	- 91 TO -258	167	20	50	05-23-72	TURB	MAGOTHY	46
42762	1972	26	P.S.	WTDR	-624 TO -684	60	20	8	04-10-72		MAGOTHY	43
42827	1972	35	P.S.	WTDR	-563 TO -625	62	20			TURB	MAGOTHY	
43001	1972	230	P.S.	WTDR	-216 TO -296	80	20	189	09-07-72	TURB	UPGLAC	95
43010	1972	20	UNSD	TEST	-660 TO -680	20				SUBM	MAGOTHY	
43088	1972	90	UNSD	TEST							MAGOTHY	
43101	1972	40	UNSD	TEST							MAGOTHY	
43117	1972	102	P.S.	WTDR	-366 TO -451	85	20	49	05-08-72	TURB	MAGOTHY	55
43516	1972	55	UNSD	TEST							MAGOTHY	
43808	1972	66	UNSD	OBS	22 TO 12	10	6	5			UPGLAC	
43810	1972	30	UNSD	OBS	- 31 TO - 41	10	6				UPGLAC	

2.11.16

Table 2.--Hydrologic units and well-completion data

Well number	Map coord	Latitude and Longitude	Well depth (ft)	Upper glacial aquifer	Gardiners Clay	Monmouth greensand	Magothy aquifer	Raritan clay	Lloyd aquifer	Bedrock
		Location of well		HYDROLOGIC UNIT PENETRATED AND ELEVATION OF UNIT SURFACE, IN FEET ABOVE OR BELOW NATIONAL GEODETIC VERTICAL DATUM OF 1929						
43811	D 9	404530 0732411.01	90	102						
43813	C 9	404158 0732258.02	78	35						
43814	C 9	404455 0732150.01	50	60						
43816	C 9	404237 0732206.02	80	40						
43817	D 9	404618 0732050.01	56	70						
43819	C 9	404250 0732023.02	78	30						
43820	D10	404649 0731840.01	98	110						
43822	C10	404302 0731855.02	74	20						
44032	E12	405147 0730649.01	753	118			-136			
44137	C10	404432 0731513.01	720	39	- 46		- 75			
44186	E13	405004 0730227.01	673	180			- 88			
44378	E 9	405322 0732114.01	467	27						
44467	E15	405122 0725407.00	713	105			-107			
44660	F14	405710 0725713.01	205	155						
44774	D11	404920 0731428.01	293	79						
44775	E13	405407 0730009.01	755	150						
44914	E 9	405254 0732142.01	25	30						
44918	D13	404812 0730412.01	85	85						
45053	E 9	405330 0732424.01	125	185						
45207	E10	405132 0731814.01	146	165						
45208	E 9	405005 0732337.01	137	150						
45210	D10	404943 0731745.01	109	125						
45212	E10	405356 0731920.01	114	120						
45220	C12	404305 0730853.00	724	10	- 76	-104	-202			
45347	D10	404726 0731626.01	643	130			-200			
45348	D10	404729 0731628.01	650	130			-200			
45402	E10	405259 0731622.01	170	180						
45446	C10	404400 0731544.02	41	38						
45447	D12	404606 0730500.01	82	52						
45594	D10	404920 0731509.01	85	105						
45610	E 9	405322 0732114.04	313	15						
45637	D12	404508 0730809.01	82	13						
45638	D 9	404804 0732037.01	725	170						
45639	D 9	404804 0732037.02	740	170						
45717	D10	404618 0731645.01	75	93						
45719	D11	404635 0731016.01	82	26						
45720	D11	404716 0731316.02	81	90						
45722	D11	404516 0731228.01	91	37						
45808	E15	405201 0725442.00	707	93			-105			
45839	D11	404503 0731312.04	726	40			-105			
45935	D10	404851 0731851.01	605	285			-344			
46165	F11	405321 0731005.01	481	15						
46235	C10	404432 0731513.01	713	39	- 46		- 75			
46281	E 8	405237 0732505.00	51	34						
46283	D 9	404823 0732118.00	239	275						
46284	D12	404848 0730736.01	108	110						
46286	D11	404836 0731109.01	107	120						
46400	E13	405002 0730226.00	266	180			- 84			
46309	C12	404317 0730859.01	315	15	- 75	-115	-201			
46712	D16	404803 0724840.01	100	20						
46713	D16	404804 0724941.01	444	20	- 76	- 95	-144			
46830	D10	404606 0731746.01	655	76	- 46		- 60			
46871	E 8	405041 0732515.01	836	196				-428		
46911	D16	404920 0724845.02	34	41						
46912	D16	404919 0724845.01	32	42						

2.12.16

Table 2.--Hydrologic units and well-completion data

Well number	Location of well: Map coord	Location of well: Latitude and Longitude	Well depth (ft)	HYDROLOGIC UNIT PENETRATED AND ELEVATION OF UNIT SURFACE, IN FEET ABOVE OR BELOW NATIONAL GEODETIC VERTICAL DATUM OF 1929: Upper glacial aquifer	Gardiners Clay	Monmouth greensand	Magothy aquifer	Raritan clay	Lloyd aquifer	Bedrock
46928	E13	405455 0730258.01	654	166			- 35			
46963	E12	405226 0730957.01	133	147						
46964	E10	405225 0731522.00	114	123						
46965	E10	405230 0731644.00	152	166						
46966	D16	404952 0724705.01	86	89						
47002	E19	405300 0723052.01	163	90						
47024	D17	404628 0724308.04	377	10		-210	-321			
47157	D11	404933 0731342.01	25	105						
47218	E14	405335 0725629.00	703	71			-307			
47222	C10	404200 0731636.01	28	75						
47223	C12	404351 0730541.01	30	55						
47224	D15	404817 0725325.00	33	20						
47225	E14	405218 0725611.01	31	31						
47227	E16	405240 0724914.01	100	40						
47228	E16	405306 0724827.01	101	40						
47231	F18	405541 0723753.00	40	40						
47233	Q20	410348 0722729.00	51	11						
47234	G21	410213 0722327.00	27	7						
47235	G23	410037 0721651.01	22	5						
47236	G23	410156 0721336.01	60	35						
47281	E17	405349 0724415.02	275	160	- 78		- 90			
47282	E17	405849 0724415.03	283	140	- 87		- 95			
47436	E15	405124 0725408.01	196	105						
47437	E15	405124 0725408.02	179	105						
47438	E15	405124 0725408.03	269	105			-103			
47439	D14	404739 0725627.02	707	71			-114			
47453	D12	404804 0730513.00	443	100	- 86		-102			
47672	D11	404810 0731132.00	734	100			-341			
47673	E11	405142 0731058.01	279	109						
47675	E12	405111 0730658.01	90	80						
47698	E12	405307 0730609.01	104	133						
47711	C 9	404119 0732219.01	221	25	- 47		- 68			
47718	D12	404941 0730654.01	51	68						
47741	E 8	405211 0732507.00	339	70						
47743	D13	404642 0730058.01	100	35						
47745	E14	405417 0725727.01	32	62						
47746	D14	404847 0725713.00	84	90						
47747	D15	404740 0725452.00	35	31						
47748	F15	405638 0725147.00	36	110						
47750	E15	405004 0725154.00	95	95						
47752	D14	404607 0725947.01	100	23						
47755	E16	405136 0724645.00	58	63						
47756	D14	404922 0725950.01	69	89						
47757	E13	405008 0730255.01	138	160						
47758	D12	404852 0730504.01	102	121						
47886	C 9	404204 0732420.01	509	43			- 47			
47887	C 8	404046 0732521.02	648	26	- 56		- 64			
47945	F14	405648 0725551.01	142	143						
47973	F12	405604 0730643.01	90	94						
47974	F13	405532 0730257.01	150	149						
47975	E14	405050 0725953.01	129	153						
47976	F14	405605 0725915.01	138	150						
47977	D15	404711 0725150.00	55	38						
48014	E12	405203 0730855.01	343	124			-109			
48193	D 9	404515 0732255.02	534	80						

2.13.16

Table 2.--Hydrologic units and well-completion data

Well number	Location of well: Map coord	Location of well: Latitude and Longitude	Well depth (ft)	HYDROLOGIC UNIT PENETRATED AND ELEVATION OF UNIT SURFACE, IN FEET ABOVE OR BELOW NATIONAL GEODETIC VERTICAL DATUM OF 1929: Upper glacial aquifer	Gardiners Clay	Monmouth greensand	Magothy aquifer	Raritan clay	Lloyd aquifer	Bedrock
53326	G20	410229 0722957.01	92	60						
53327	G20	410022 0722936.01	44	24						
53328	G21	410234 0722436.01	41	20						
53329	G20	410140 0722816.01	71	30						
53330	M21	410706 0722032.01	52	15						
53331	M21	410753 0722055.01	70	47						
53332	F19	405843 0723243.01	45	25						
53333	F19	405924 0723423.01	74	51						
53334	F19	405959 0723039.01	53	32						
53335	G20	410304 0722627.01	37	16						
53336	G19	410017 0723155.01	42	18						
53337	H22	410906 0721713.01	52	20						
53338	G20	410412 0722613.01	65	39						
53339	G20	404722 0730305.01	798	50	-122		-140			
53360	E10	405032 0731628.02	703	141			- 88			
53361	E10	405133 0731559.01	521	148			- 75			
53-97	D12	404950 0730850.01	173	90						
53-98	D12	404950 0730850.02	721	90			-180			
53522	E17	405230 0724300.01	137	167	- 69		- 81			
53593	E18	405124 0723536.03	161	47						
53747	E10	405140 0731910.01	453	171			-117			
53851	E17	405230 0724300.02	291	167	- 69		- 81			
54099	E13	405029 0730321.01	703	170			- 90			
54155	G10	404326 0731735.01	721	38			- 97			
54162	E10	405359 0731828.01	543	151						
54305	D12	404805 0730515.02	313	100	- 78		- 96			
54308	D11	404759 0731225.01	797	109			-106			
54377	B12	403936 0730525.01	630	5			-329			
54473	E13	405030 0730321.03	312	170	- 69		-130			
54478	F18	405906 0723528.01	125	65			-481			
54479	F18	405857 0723538.01	467	65			-481			
54568	C 8	404210 0732502.02	423	45	- 38		- 53			
54731	B10	403822 0731550.01	750	8			-117			
54957	D11	404618 0731233.01	378	50			- 74			
55028	E25	405332 0722420.01	161	50			-158			
55076	F18	405856 0723540.01	343	68						
55094	E 9	405122 0732327.01	180	185						
55733	C10	404326 0731741.01	233	38			- 97			
56133	E10	405434 0731942.02	333	70						
56423	C10	404418 0731718.01	800	50	- 50		- 75			
56508	D13	404542 0730133.01	709	6	-118	-135	-184			
56674	D13	404950 0730015.01	179	107	- 71					
56980	F18	405935 0723548.01	1104	35			-285	-715	-875	-1015
57008	D10	404658 0731642.01	635	111			-160			
57354	E 8	405126 0732737.01	257	50						
57357	G26	410249 0715545.01	93	32		-110				
57666	D 9	404604 0732458.01	270	105						
57723	C13	404322 0730450.01	807	38			-152			
57748	F 8	405520 0732939.01	418	82				-282	-300	
57979	F12	405614 0730515.01	582	100			- 55			
57980	F13	405510 0730452.01	703	187			- 98	-573		
58708	D10	404936 0731525.01	423	132			- 16			
58755	E13	405052 0730205.01	252	240						
58761	E13	405342 0730307.01	723	130			-165			
58921	G25	410040 0720025.01	75	48						

2.14.16

from selected wells and test holes in Suffolk County, New York.

Well Number	Year Completed	Elevation of land surface (ft above or below NGVD)	WELL-COMPLETION DATA: Use of Water	Use of Well	Screen Setting (ft above or below NGVD)	Total Screen Length (ft)	Diam of Well (in)	Water level (ft below LSD)	Date of Meas. (M-D-Y)	Lift Type	Aquifer Developed	Specific Capacity (GPM/ft)
53326	1974		UNSD	OBS	- 19 TO - 29	10	4				UPGLAC	
53327	1974		UNSD	OBS	- 8 TO - 18	10	4				UPGLAC	
53328	1974		UNSD	OBS	- 9 TO - 19	10	4				UPGLAC	
53329	1975		UNSD	OBS	- 26 TO - 41	15	8				UPGLAC	
53330	1975		UNSD	OBS	- 17 TO - 37	20	4				UPGLAC	
53331	1974		UNSD	OBS	- 11 TO - 21	10	4				UPGLAC	
53332	1974		UNSD	OBS	- 8 TO - 18	10	4				UPGLAC	
53333	1974		UNSD	OBS	- 11 TO - 21	10	4				UPGLAC	
53334	1974		UNSD	OBS	- 9 TO - 19	10	4				UPGLAC	
53335	1974		UNSD	OBS	- 9 TO - 19	10	4				UPGLAC	
53336	1974		UNSD	OBS	- 12 TO - 22	10	4				UPGLAC	
53337	1975		UNSD	OBS	- 12 TO - 32	20	4				UPGLAC	
53338	1974		UNSD	OBS	- 14 TO - 24	10	4				UPGLAC	
53339	1974		UNSD	TEST							MAGOTHY	
53360	1975		P.S.	WTDR	-407 TO -526	119	20	80	02-27-75	TURB	MAGOTHY	76
53361	1975		P.S.	WTDR	-289 TO -369	80	20	111	05-15-75	TURB	MAGOTHY	61
53497	1975		P.S.	WTDR	- 25 TO - 80	55	42			TURB	UPGLAC	
53498	1975		P.S.	WTDR	-573 TO -628	55	42			TURB	MAGOTHY	
53522	1976		P.S.	WTDR						TURB	MAGOTHY	
53593	1974		P.S.	WTDR	- 71 TO -111	40	20	38	12-17-74		UPGLAC	
53747	1975		P.S.	WTDR	-199 TO -277	78	20	111	10-03-75	TURB	MAGOTHY	51
53851	1975		P.S.	WTDR						TURB	MAGOTHY	
54099	1975		UNSD	TEST				114	02-27-75		MAGOTHY	
54155	1975		UNSD	TEST							MAGOTHY	
54162	1975		P.S.	WTDR	-304 TO -374	70	20	130	03-18-75		UPGLAC	82
54305	1975		P.S.	WTDR	-149 TO -210	61	20	55	06-02-75		MAGOTHY	26
54308	1975		P.S.	WTDR	-613 TO -683	70	20	72	03-06-75	TURB	MAGOTHY	50
54377	1975		P.S.	WTDR	-575 TO -625	50	12	10	04-03-75	TURB	MAGOTHY	20
54473	1975		P.S.	WTDR	- 78 TO -139	61	20	115	07-16-75	TURB	MAGOTHY	44
54478	1975		UNSD	TEST	- 29 TO - 60	31	12	56	03-31-75		MAGOTHY	66
54479	1975		UNSD	OBS	-392 TO -402	10	6				MAGOTHY	
54568	1975		P.S.	WTDR	-293 TO -376	83	20	23	05-12-75	TURB	MAGOTHY	41
54731	1975		P.S.	WTDR	-691 TO -742	51	14	4	07-21-75		MAGOTHY	21
54957	1976		P.S.	WTDR	-268 TO -323	55	20	19			MAGOTHY	10
55028	1975		P.S.	WTDR	- 75 TO -110	35	10	43	08-01-75		UPGLAC	175
55076	1975		UNSD	UNSD							UPGLAC	
55094	1975		UNSD	UNSD							UPGLAC	
55733	1975		P.S.	WTDR	-142 TO -192	50	20	14	09-25-75	TURB	MAGOTHY	56
56133	1976		UNSD	TEST	-157 TO -261	104	20	23	05-12-76		UPGLAC	108
56423	1975		UNSD	TEST		0		21			MAGOTHY	13
56508	1976		UNSD	TEST		0					MAGOTHY	
56674	1975		P.S.	WTDR	- 15 TO - 65	50	20	56	12-26-75		UPGLAC	88
56980	1976		UNSD	TEST							LLOYD	
57008	1976		P.S.	WTDR	-418 TO -521	103	20	62	02-23-76	TURB	MAGOTHY	50
57354	1976		P.S.	WTDR	-163 TO -204	41	12	19	04-29-76	TURB	UPGLAC	48
57357	1976		UNSD	UNSD	- 26 TO - 57	31	10	29	03-18-76		UPGLAC	152
57666	1976		ARCD	WTDR	-135 TO -165	30	8	43	08-10-76	TURB	UPGLAC	13
57723	1976		UNSD	TEST			16				MAGOTHY	
57748	1977		DOM	WTDR	-331 TO -336	5	4	78	05-15-76	SUBM	LLOYD	2
57979	1976		P.S.	WTDR	-389 TO -479	90	20	59	05-26-76	TURB	MAGOTHY	56
57980	1977		P.S.	WTDR	-443 TO -513	70	20	144	01-03-77	TURB	MAGOTHY	24
58708	1976		P.S.	WTDR	-197 TO -257	60	20	81	09-28-76	TURB	MAGOTHY	50
58755	1976		DOM	WTDR	- 6 TO - 12	6	4			SUBM	UPGLAC	
58761	1977		UNSD	UNSD	-522 TO -593	71	20	82	02-15-77		MAGOTHY	22
58921	1976		UNSD	OBS	- 19 TO - 24	5	4				UPGLAC	

2.15.16

Table 2.--Hydrologic units and well-completion data

Location of well			HYDROLOGIC UNIT PENETRATED AND ELEVATION OF UNIT SURFACE, IN FEET ABOVE OR BELOW NATIONAL GEODETIC VERTICAL DATUM OF 1929							
Well number	Map coord	Latitude and Longitude	Well depth (ft)	Upper glacial aquifer	Gardiners Clay	Monmouth greensand	Magothy aquifer	Raritan clay	Lloyd aquifer	Bedrock
64847	D11	404505 0731320.01	634	40			-114			
64927	E 9	405306 0732331.01	621	95						
64928	D11	404651 0731203.01	742	65	- 58		- 71			
65196	D10	404529 0731719.01	124	69	- 39		- 48			
65321	E17	405243 0724117.01	304	259	- 35					
65340	D12	404636 0730709.01	804	70			-282			
65505	C 9	404352 0732158.01	650	54			-132			
65766	D11	404759 0731228.01	796	100			-110			
66132	D 9	404605 0732417.01	140	100			40			
66133	C 9	404330 0732441.01	161	66			- 30			
66134	C 9	404235 0732411.01	150	51			- 53			
66135	C11	404430 0731233.01	168	34	- 56		- 59			
66136	B 9	403935 0732350.01	143	7	- 57		- 69			
66137	D 9	404618 0732121.01	143	140			70			
66138	C 9	404430 0732156.01	150	63	- 27		- 41			
66139	C 9	404332 0732122.01	153	42			- 44			
66140	C 9	404205 0732100.01	112	21			- 54			
66141	C 9	404058 0732025.01	133	5	- 53		-105			
66142	D10	404815 0731632.01	203	140	- 15		- 33			
66143	D10	404541 0731803.01	185	70	- 36		- 45			
66144	C10	404448 0731641.01	143	59	- 51		- 59			
66145	C10	404435 0731712.01	175	42			- 58			
66146	C10	404201 0731638.01	143	12	- 39		- 63			
66147	C12	404251 0730959.01	184	12	- 87	-104	-143			
66148	D11	404614 0731336.01	153	66			- 53			
66149	D11	404524 0731234.01	183	38			- 76			
66150	C11	404430 0731233.01	163	26	- 58		- 77			
66151	C11	404308 0731318.01	150	7	- 68		- 98			
66152	D11	404810 0731219.01	193	107			- 57			
66153	D11	404645 0731053.01	163	50			- 68			
66154	D11	404548 0731010.01	153	31	- 64		- 91			
66155	C11	404447 0731041.01	155	28	- 73		- 91			
66156	C12	404334 0730955.01	173	18	- 92		-112			
66183	D13	404722 0730305.03	543	71	-139		-159			
66366	E 9	405158 0732548.01	479	170						
66496	E12	405058 0730509.01	793	127	- 53		- 78			
66556	C 9	404308 0732431.01	753	50			- 48			
66733	F23	405814 0721008.01	607	45			-485			
66823	F13	405623 0730052.01	646	160						
66825	E21	405333 0722417.01	385	50			-162			
66880	E19	405031 0722850.01	216	5		-124	-239			
67074	D12	404632 0730706.01	832	70			-374			
67081	B11	403301 0731227.01	125	4	- 87	-102				
67082	B11	403739 0731432.01	234	12	- 73	-100	-206			
67083	B10	403729 0731701.01	125	12	- 80	- 97				
67084	B10	403825 0731823.01	205	9	- 73	- 91	-147			
67085	B 9	403813 0732007.01	122	10	- 70					
67086	B 9	403739 0732201.01	125	10	- 74					
67087	B 9	403657 0732421.01	205	10	- 74	- 95	-140			
67088	B 8	403640 0732527.01	225	10	- 74	- 95	-151			
67197	D11	404652 0731203.01	763	63	- 58		- 71			
67974	D14	404552 0725617.01	790	30		- 98	-130			

2.16.16

from selected wells and test holes in Suffolk County, New York.

WELL-COMPLETION DATA

Well Number	Year Completed	Elevation of LSD (ft above or below NGVD)	Use of Water	Use of Well	Screen Setting (ft above or below NGVD)	Total Screen Length (ft)	Diam of Well (in)	Water level (ft below LSD)	Date of Meas. (M-D-Y)	Lift Type	Aquifer Developed	Specific Capacity (GPM/ft)
64847	1979	40	P.S.	WTDR	-488 TO -590	112	20	14	01-08-79		MAGOTHY UPGLAC	39
64927	1978	95	UNSD	TEST							MAGOTHY	
64928	1978	65	UNSD	TEST							MAGOTHY	
65196	1978	69	UNSD	TEST							UPGLAC	
65321	1978	259	UNSD	UNSD	2 TO - 8	10	4					
65340	1978	70	UNSD	TEST							MAGOTHY	
65505	1979	54	P.S.	WTDR	-521 TO -591	70	20	21			MAGOTHY	70
63766	1978	100	UNSD	UNSD							MAGOTHY	
66132	1978	100	UNSD	OBS	10 TO 0	10	6	73	07-11-79		MAGOTHY	
66133	1979	66	UNSD	OBS	- 66 TO - 76	10	6	47	07-11-79		MAGOTHY	
66134	1979	51	UNSD	OBS	- 83 TO - 93	10	6	34	07-11-79		MAGOTHY	
66135	1979	34	UNSD	OBS	- 93 TO -103	10	6	21	07-11-79		MAGOTHY	
66136	1979	7	UNSD	OBS	-118 TO -128	10	6	4	07-11-79		MAGOTHY	
66137	1979	140	UNSD	OBS	20 TO 10	10	6	71	07-11-79		MAGOTHY	
66138	1979	63	UNSD	OBS	- 56 TO - 66	10	6	41	07-11-79		MAGOTHY	
66139	1979	42	UNSD	OBS	- 76 TO - 86	10	6	34	07-11-79		MAGOTHY	
66140	1979	21	UNSD	OBS	- 62 TO - 72	10	6	16	07-11-79		MAGOTHY	
66141	1979	5	UNSD	OBS	-105 TO -115	10	6	4	07-11-79		MAGOTHY	
66142	1979	140	UNSD	OBS	- 32 TO - 42	10	6	60	07-11-79		MAGOTHY	
66143	1979	70	UNSD	OBS	- 96 TO -106	10	6	47	07-11-79		MAGOTHY	
66144	1979	59	UNSD	OBS	- 67 TO - 77	10	6	41	07-11-79		MAGOTHY	
66145	1979	42	UNSD	OBS	-105 TO -115	10	6	27	07-11-79		MAGOTHY	
66146	1979	12	UNSD	OBS	-101 TO -111	10	6	8	07-11-79		MAGOTHY	
66147	1979	12	UNSD	OBS	-145 TO -155	10	6	11	07-11-79		MAGOTHY	
66148	1979	66	UNSD	OBS	- 69 TO - 79	10	6	42	07-11-79		MAGOTHY	
66149	1979	38	UNSD	OBS	-119 TO -129	10	6	23	07-11-79		MAGOTHY	
66150	1979	26	UNSD	OBS	- 84 TO - 94	10	6	17	07-11-79		MAGOTHY	
66151	1979	7	UNSD	OBS	-117 TO -127	10	6	9	07-11-79		MAGOTHY	
66152	1979	107	UNSD	OBS	- 68 TO - 78	10	6	45	07-11-79		MAGOTHY	
66153	1979	50	UNSD	OBS	- 98 TO -108	10	6	31	07-11-79		MAGOTHY	
66154	1979	31	UNSD	OBS	- 97 TO -107	10	6	21	07-11-79		MAGOTHY	
66155	1979	28	UNSD	OBS	-107 TO -115	10	6	16	07-11-79		MAGOTHY	
66156	1979	18	UNSD	OBS	-134 TO -144	10	6	12	07-11-79		MAGOTHY	
66183	1979	71	UNSD	UNSD							MAGOTHY	
66366	1979	170	P.S.	WTDR	-230 TO -290	60	20	133	04-04-79		UPGLAC	59
66496	1979	127	UNSD	UNSD							MAGOTHY	
66556	1979	50	UNSD	UNSD							MAGOTHY	
66733	1979	45	UNSD	UNSD							MAGOTHY	
66823	1979	160	UNSD	TEST							UPGLAC	
66825	1979	50	UNSD	OBS							MAGOTHY	
66880	1979	5	UNSD	OBS	-201 TO -211	10	2				MAGOTHY	
67074	1979	70	UNSD	OBS							MAGOTHY	
67081	1979	4	UNSD	TEST							UPGLAC	
67082	1979	12	UNSD	OBS	-208 TO -218	10	6				MAGOTHY	
67083	1979	12	UNSD	TEST							UPGLAC	
67084	1979	9	UNSD	OBS	-158 TO -168	10	6				MAGOTHY	
67085	1979	10	UNSD	TEST							UPGLAC	
67086	1979	10	UNSD	TEST							UPGLAC	
67087	1979	10	UNSD	OBS							MAGOTHY	
67088	1979	10	UNSD	TEST							MAGOTHY	
67197	1979	65	UNSD	OBS							MAGOTHY	
67974	1980	30	UNSD	OBS							MAGOTHY	

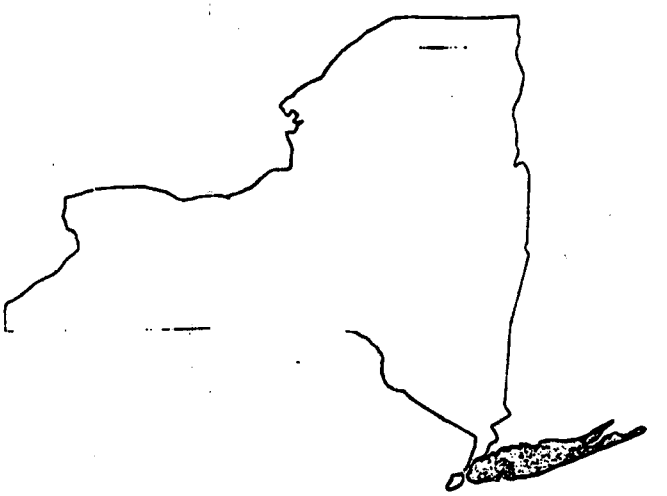
3.1.2

UNITED STATES DEPAR MENT OF THE INTERIOR
GEOLOGICA SURVEY

Water Table on Long Island, New York, March 1979

By

Cynthia D. Donaldson and Edward J. Koszalka



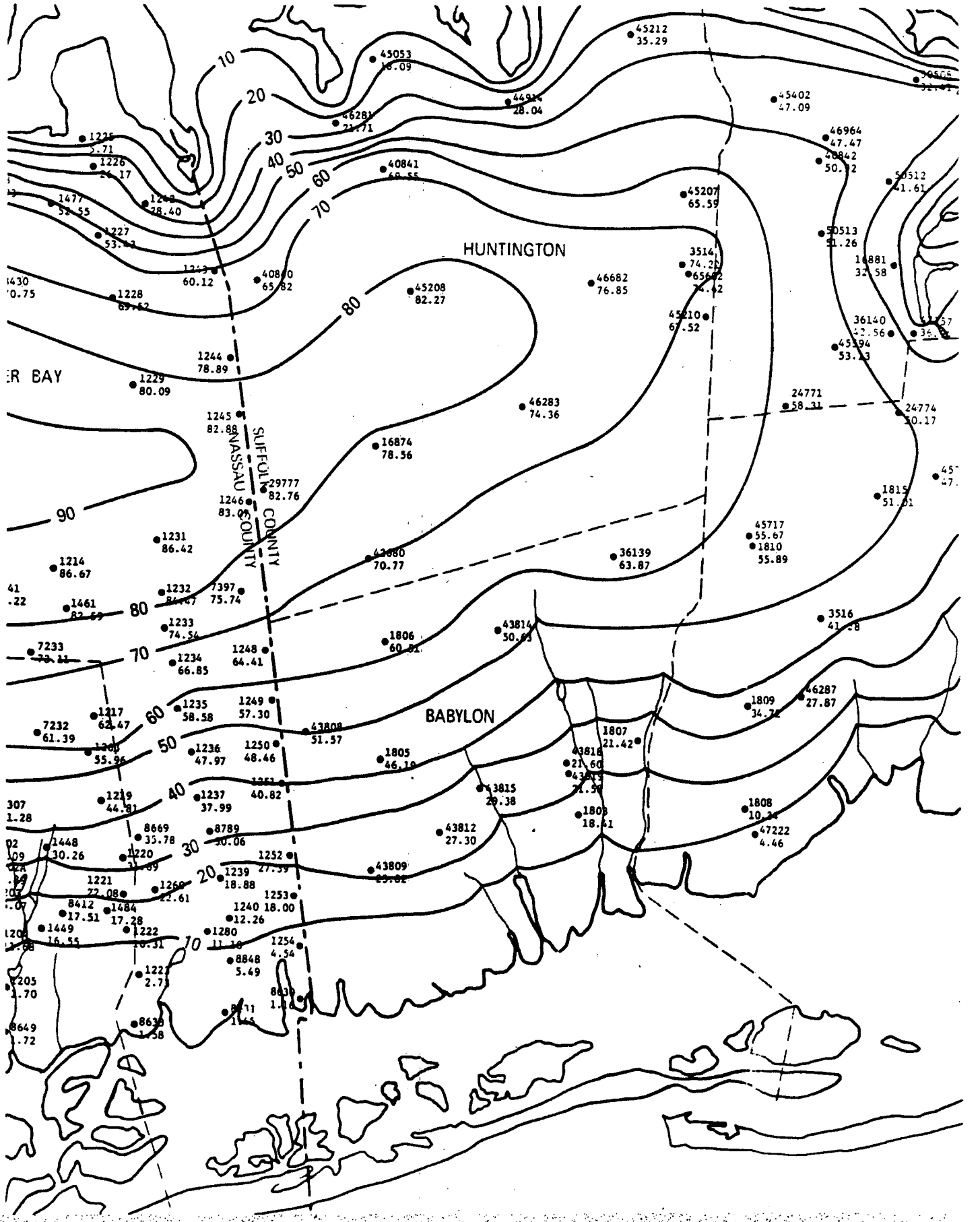
Prepared in cooperation with

NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
SUFFOLK COUNTY WATER AUTHORITY

U.S. GEOLOGICAL SURVEY
Open-File Report 82-163

Syosset, New York
1983

3.2.2


HUNTINGTON
BABYLON
NASSAU COUNTY
SUFFOLK COUNTY
10
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4.1.22

RCRA TREATMENT, STORAGE AND DISPOSAL FACILITY INSPECTION FORM
FOR TSD FACILITIES ONLY

COMPANY NAME: HAZARDOUS WASTE DISPOSAL, INC.

EPA I.D. Number: NYT 0000 0 3974

COMPANY ADDRESS: 11A PICONE BLVD. FARMINGDALE, N.Y. 11735

COMPANY CONTACT OR OFFICIAL: MR. GEORGE R. LAWRENCE

OTHER ENVIRONMENTAL PERMITS HELD BY FACILITY:

- [ ] NPDES
- [ ] AIR
- [x] OTHER NYS 360 PERMIT HAULERS PERMIT

TITLE: PRESIDENT

INSPECTOR'S NAME: GEORGE FALLICO/ROBERT GARRITY

DATE OF INSPECTION: 9-2-81

BRANCH/ORGANIZATION: SOLID WASTE

TIME OF DAY INSPECTION TOOK PLACE: 2:10 P.M.

RECEIVE

OCT 20 1981

DIRECTOR'S OFFICE
DIVISION OF SOLID WAS

ENVIRONMENTAL PROTECTION AGENCY
NEW YORK, N.Y. 10007
OCT 13 3 36 PH '81

(1) Is there reason to believe that the facility has hazardous waste on site?

a. If yes, what leads you to believe it is hazardous waste? Check appropriate box:

- [x] Company admits that its waste is hazardous during the inspection.
- [x] Company admitted the waste is hazardous in its RCRA notification and/or Part A Permit Application.
- [x] The waste material is listed in the regulations as a hazardous waste from a nonspecific source (§261.31)
- [ ] The waste material is listed in the regulations as a hazardous waste from a specific source (§261.32)
- [ ] The material or product is listed in the regulations as a discarded commercial chemical product (§261.33)
- [ ] EPA testing has shown characteristics of ignitability, corrosivity, reactivity or extraction procedure toxicity, or has revealed hazardous constituents (please attach analysis report)
- [ ] Company is unsure but there is reason to believe that waste materials are hazardous. (Explain)

	YES	NO	DON'T KNOW
b. Is there reason to believe that there are hazardous wastes on-site which the company claims are merely products or raw materials?	✓		

Please explain:
COMPANY CLAIMS THAT A LOT OF THE SOLVENT IS USED AS AN ALTERNATE FUEL SUPPLIES.

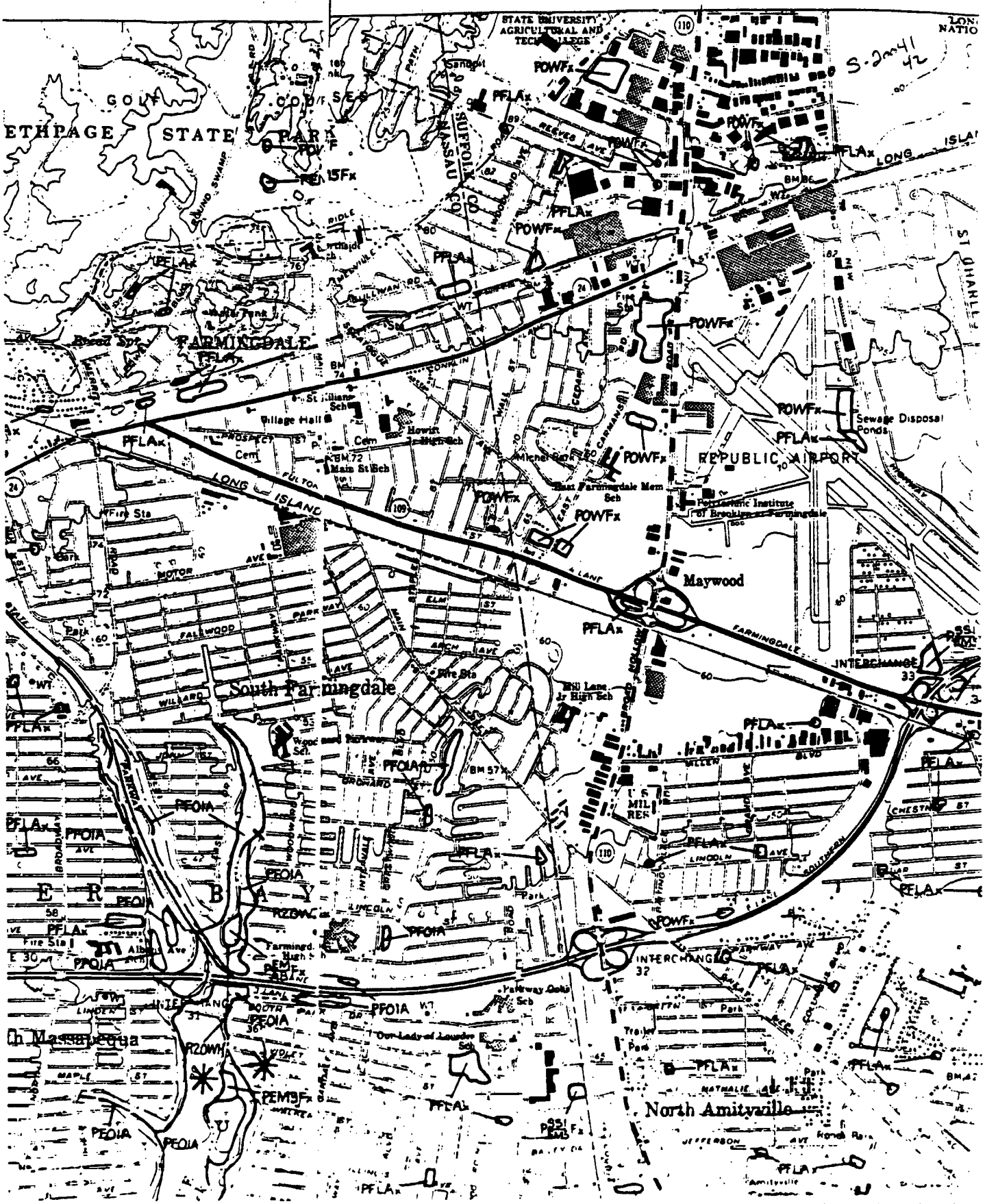
c. Identify the hazardous wastes that are on-site, and estimate approximate quantities of each.
SPENT SOLVENTS AND ACIDS.
1900 DRUMS. PLUS A 2500 GAL. ACID TANK.

	YES	NO	DON'T KNOW
(2) Does the facility generate hazardous waste?	✓		
(3) Does the facility transport hazardous waste?	✓		
(4) Does the facility treat, store or dispose of hazardous waste?	✓		

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

12.1.1



4.2.22

VISUAL OBSERVATIONS

	YES	NO	DON'T KNOW
(5) SITE SECURITY (§265.14)			
a. Is there a 24-hour surveillance system? 24-HOUR SECURITY GUARDS - 7 DAYS PER WEEK.	✓	—	—
b. Is there a suitable barrier which completely surrounds the active portion of the facility? FENCE	✓	—	—
c. Are there "Danger-Unauthorized Personnel Keep Out" signs posted at each entrance to the facility? THERE IS A WARNING SIGN, BUT IS NOT THE ONE REQUIRED BY THE REGULATIONS.	—	✓	—
(6) Are there (ignitable,) reactive or incompatible wastes on site? (§265.27)	✓	—	—
a. If "YES", what are the approximate quantities? 1900 DRUMS COMPOSED OF IGNITABLE AND NON-IGNITABLE WASTE.			
b. If "YES", have precautions been taken to prevent accidential ignition or reaction of ignitable or reactive waste? ALTHOUGH BUNG WRENCHES AND EXPLOSION-PROOF LIGHTS ARE USED, THE STORED DRUMS ARE LEAKING AND EXPOSED TO THE ELEMENTS.	—	✓	—
c. If "YES", explain			
d. In your opinion, are proper precautions taken so that these wastes do not:			
- generate extreme heat or pressure, fire or explosion, or violent reaction?	—	✓	—
- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficent quantities to threaten human health?	—	✓	—
- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions?	—	✓	—
- damage the structural integrity of the device or facility containing the waste?	—	✓	—
- threaten human health or the environment?	—	✓	—

Please explain your answers, and comment if necessary.

e. Are there any additional precautions which you would recommend to improve hazardous waste handling procedures at the facility? YES, A COMPLETE RENOVATION OF THE STORAGE AREA. THE IMPRESSION IS THAT THE OWNER OF THE FACILITY SIMPLY PUTS THE DRUMS WHEREVER THERE IS AVAILABLE SPACE, WITH MINIMAL ATTENTION TO SAFEGUARDING HIS EMPLOYEES' SAFETY, PUBLIC HEALTH AND THE ENVIRONMENT.

(7) Does the facility comply with preparedness and prevention requirements including maintaining: (§265.32)

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	YES	NO	DON'T KNOW
- an internal communications or alarm system?	✓		
- a telephone or other device to summon emergency assistance from local authorities?	✓		
- portable fire equipment?	✓		
- adequate aisle space?		✓	
- in your opinion, do the types of wastes on site require all of the above procedures, or are some not needed? Explain.	✓		

ALL OF THE ABOVE PROCEDURES ARE NEEDED.

In your opinion, do the types of wastes on site require all of the above procedures, or are some not needed? Explain.

ALL OF THE ABOVE PROCEDURES ARE NEEDED

*(8) Have you inspected to verify that the groundwater monitoring wells (if any) mentioned in the facility's groundwater monitoring plan (see no. 19 below) are properly installed? N/A. FACILITY IS NOT A LANDFILL. NO KNOWN ADEQ WELLS LOCATED WITHIN 30 FEET OF THE STORAGE AREA. If you have, please comment, as appropriate.		✓	
(9) a. Is there any reason to believe that groundwater contamination already exists from this facility? If "YES", explain.		✓	
b. Do you believe that operation of this facility may affect groundwater quality?	✓		

c. If "YES", explain. THE LOCATION OF THE DRYWELL IS SUCH THAT MODERATE (OR HEAVY) PRECIPITATION WILL RESULT IN GROUNDWATER CONTAMINATION ASSUMING GROUND WATER TO EXIST UNDER THE FACILITY. ADDITIONALLY, THE SPACE BETWEEN THE STORAGE AREA AND THE DRY WELL IS SIMPLY UNOCCUPIED GROUND.

RECORDS INSPECTION

(10) Has the facility received hazardous waste from an off-site source since Nov. 19, 1980 (effective date of the regulations)?	✓		
a. If "YES", does it appear that the facility has a copy of a manifest for each hazardous waste load received?	✓		
b. How many post-November 19 manifests does it have? (If the number is large, you may estimate) COMPANY RECEIVES WASTES A FEW TIMES PER WEEK.			
c. Does each manifest (or a representative sample) have the following information?			
- a manifest document number	✓		

* [illegible] after November 19, 1981

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	YES	NO	DON'T KNOW	
(13) PERSONNEL TRAINING ($265.16)				
a. Is there written documentation of the following:				
- job title for each position at the facility related to hazardous waste management and the name of the employee filling each job?	__	—	—	INADEQUATE; NOT OBTAINED
- type and amount of training to be given to personnel in jobs related to hazardous waste management?	—	—	—	
- actual training or experience received by personnel?	—	—	—	
(14) Does the facility have a written contingency plan for emergency procedures designed to deal with fires, explosion or any unplanned release of hazardous waste? ($265.51)	—	—	—	
a. Does the plan describe arrangements made with local authorities?	✓	—	—	
b. Has the contingency plan been submitted to local authorities?	✓	—	—	
How do you know?				
c. Does the plan list names, addresses, and phone numbers of Emergency Coordinators?	✓	—	—	
d. Does the plan have a list of what emergency equipment is available?	✓	—	—	
e. Is there a provision for evacuating facility personnel?	✓	—	—	
f. Was an Emergency Coordinator present or on call at the time of the inspection?	✓	—	—	
(15) Does the owner/operator keep a written operating record with: ($265.73)				
- a description of wastes received with methods and dates of treatment, storage or disposal?	✓	—	—	
- location and quantity of each waste?	✓	—	—	
- detailed records and results of waste analysis and treatability tests performed on wastes coming into the facility? NOT AT THIS PLANT. A SECOND FACILITY (APPLIED ENVIRONMENTAL SERVICES) KEEPS DETAILED RECORDS OF ALL ANALYSIS. LAB IS LOCATED THERE.	—	—	—	
- detailed operating summary reports and description of all emergency incidents that required the implementation of the facility contingency plan?	✓	—	—	
*(16) Does the facility have written closure and post-closure plans? ($265.110) FACILITY IS UNDER COURT ORDER TO SHUT DOWN, PARTIALLY SATISFYING CLOSURE REQUIREMENTS	—	✓	—	
a. Does the written closure plan include: (SEE ATTACHED COURT ORDER)				
- a description of how and when the facility will be partially (if applicable) and ultimately closed?	—	—	—	

* Effective date for this requirement is May 19, 1981.

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	YES	NO	DON'T KNOW
- an estimate of the maximum inventory of wastes in storage or treatment at any time during the life of the facility?	—	—	—
- a description of the steps necessary to decontaminate facility equipment during closure?	—	—	—
- a schedule for final closure including the anticipated date when wastes will no longer be received and when final closure will be completed?	—	—	—
b. What is the anticipated date for final closure?	—	—	—
†c. Does the owner/operator have a written post-closure plan identifying the activities which will be carried on after closure and the frequency of these activities?	—	—	—
d. Does the written post-closure plan include:			
- a description of planned groundwater monitoring activities and their frequencies during post-closure?	—	—	—
- a description of planned maintenance activities and frequencies to ensure integrity of final cover during post-closure?	—	—	—
- the name, address and phone number of a person or office to contact during post-closure?	—	—	—
*(17) Does the owner/operator have a written estimate of the cost of closing the facility? ($265.142) What is it? ORAL ESTIMATE BY MR. LAWRENCE IS $200,000	—	✓	—
*(18) Does the owner/operator have a written estimate of the cost for post-closure monitoring and maintenance? What is it? ($265.144)	—	—	—
*(19) Has a groundwater monitoring plan been submitted to the Regional Administrator for facilities containing a surface impoundment, landfill or land treatment process? (This requirement does not apply to recycling facilities.) ($265.90) N/A	—	—	—
a. Does the plan indicate that at least one monitoring well has been installed hydraulically upgradient from the limit of the waste mangement area? N/A	—	—	—
b. Does the plan indicate that there are at least three monitoring wells installed hydraulically downgradient at the limit of the waste management area? N/A	—	—	—

SEE COVER ORDER

† This section applies only to disposal facilities.

* Effective date for this requirement is May 19, 1981.

4.6.22

SITE-SPECIFIC

Please circle all appropriate activities and answer questions on indicated pages for all activities circled. When you submit your report, include only those site-specific pages that you have used.

STORAGE	TREATMENT	DISPOSAL
Waste Pile p. 9	Tank p. 8	Landfill pp. 10-11
Surface Impoundment p. 8	Surface Impoundment pp. 8-9	Land Treatment pp. 9, 10
Container p. 7	Incineration pp. 12-13	Surface Impoundment p. 8
Tank, above ground p. 8	Thermal Treatment pp. 12-13	Other _____
Tank, below ground p. 8	Land Treatment pp. 9-10	
Other _____	Chemical, Physical p. 13 and Biological Treatment (other than in tanks, surface impoundment or land treatment facilities)	
	Other _____	

CONTAINERS ($265.170)

	YES	NO	DON'T KNOW
1. Are there any leaking containers? If "YES", explain. MAJORITY OF CONTAINERS WERE LEAKING (SEE COMMENTS IN GENERATOR INSPECTION FORM, P. 4.)	—	—	—
2. Are there any containers which appear in danger of leaking? If "YES", explain.	✓	—	—
3. Do wastes appear compatible with container materials?	—	✓	—
4. Are all containers closed except those in use?	—	✓	—
5. Do containers appear to be opened, handled or stored in a manner which may rupture the containers or cause them to leak?	✓	—	—
6. How often does the plant manager claim to inspect container storage areas?			
7. Does it appear that incompatible wastes are being stored in close proximity to one another? If "YES", explain.	—	—	✓
8. Are containers holding ignitable or reactive wastes located at least 15 meters (50 feet) from the facility's property line?	✓	—	—

9. What is the approximate number and size of containers with hazardous wastes?

1900

4.7.22

TANKS ($265.190)	YES	NO	DON'T KNOW
1. Are there any leaking tanks? If "YES", explain.		✓	
2. Are there any tanks which appear in danger of leaking. If "YES", explain.		✓	
3. Are wastes or treatment reagents being placed in tanks which could cause them to rupture, leak, corrode or otherwise fail? If "YES", explain.			✓
4. Do uncovered tanks have at least 2 feet of freeboard or an adequate containment structure?	N/A		
5. Where hazardous waste is continuously fed into a tank, is the tank equipped with a means to stop this inflow?	✓		
6. Does it appear that incompatible wastes are being stored in close proximity to one another, or in the same tank? If "YES", explain.	✓		
7. How often does the plant manager claim to inspect container storage areas? DAILY			
8. Are ignitable or reactive wastes stored in a manner which protects them from a source of ignition or reaction? If "YES", explain.	N/A		

9. What is the approximate number and size of tanks containing hazardous wastes?
ONE 2520 GALLON ACID TANK.

SURFACE IMPOUNDMENTS ($265.220) N/A	YES	NO	DON'T KNOW
1. Is there at least 2 feet of freeboard in the impoundment?			
2. Do all earthen dikes have a protective cover to preserve their structural integrity? If "YES", specify type of covering.			
3. Is there reason to believe that incompatible wastes are being placed in the same surface impoundment? If "YES", explain.			

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	YES	NO	DON'T KNOW
4. Are ignitable or reactive wastes being placed in surface impoundments without being treated to remove these characteristics? If "YES", explain.	—	—	—
5. Are there any leaks, failures or is there any deterioration in the impoundments? If "YES", explain.	—	—	—
6. Give the approximate size of surface impoundments (gallons or cubic feet).			

WASTE PILES (§265.250) N/A

1. Is the waste pile protected from wind erosion?	—	—	—
a. Does it appear to need such protection?	—	—	—
b. Explain what type of protection exists.			
2. Does it appear that incompatible wastes are being stored in the same waste pile? If "YES", explain.	—	—	—
3. Is leachate run-off from a pile a hazardous waste? If "YES", explain this determination and answer (a) and (b) below.	—	—	—
a. Is the pile placed on an impermeable base that is compatible with the waste?	—	—	—
b. Is the pile protected from precipitation and run-on?	—	—	—
4. In your judgment, are ignitable or reactive wastes managed in such a way that they are protected from any material or conditions which may cause them to ignite? Please explain or indicate if no such wastes are present.	—	—	—
Are they placed on an existing pile so that they no longer meet the definition of ignitable or reactive waste? Please explain.	—	—	—
5. How many waste piles are on site, and approximately how large are they?			

LAND TREATMENT (§265.270) N/A

1. Can the facility operator demonstrate that the hazardous waste has been made less or non-hazardous by biological degradation or chemical reactions occurring in or on the soil? Please explain.	—	—	—

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	YES	NO	DON'T KNOW
*2. Is run-on diverted away from the active portions of the land treatment facility?	—	—	—
*3. Is run-off collected?	—	—	—
4. Are food chain crops being grown on the facility property?	—	—	—
a. If "YES", can the facility operator document that arsenic, lead and mercury:			
- will not be transferred to the crop or ingested by food chain animals or	—	—	—
- will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils.	—	—	—
b. Has notification of the growing of the food chain crops been made to the Regional Administrator?	—	—	—
5. Is there a written and implemented plan for unsaturated zone monitoring?	—	—	—
6. Are there records of the application dates, application rates, quantities and location of each hazardous waste placed in the facility?	—	—	—
7. Do the closure and post-closure plans address:			
a. control of migration of hazardous wastes into the groundwater?	—	—	—
b. control of run-off, release of airborne particulate contaminants?	—	—	—
c. compliance with requirements for the growth of food-chain crops (if they are present)?	—	—	—
8. Is ignitable or reactive waste immediately incorporated into the soil so the resulting waste no longer meets that definition? If "YES", explain.	—	—	—
9. Are incompatible wastes placed in the same land treatment area? If "YES", explain.	—	—	—
10. What is the area of the land receiving hazardous waste treatment?	—	—	—

LANDFILLS (§265.300) N/A

†1. Is run-on diverted away from the active portions of the landfill?	—	—	—
†2. Is run-off from active portions of the landfill collected?	—	—	—

* Effective date for these requirements is May 19, 1981.

† These requirements are effective November 19, 1981.

4.10.2

	YES	NO	DON'T KNOW
3. Is waste which is subject to wind dispersal controlled? Explain.	___	___	___
4. Does the owner/operator maintain a map with:			
- the exact location and dimensions of each cell	___	___	___
- the contents of each cell and approximate location of each hazardous waste type	___	___	___
5. Do the closure and post-closure plans address:			
- control of pollutant migration via ground water?	___	___	___
- control of surface water infiltration?	___	___	___
- prevention of erosion?	___	___	___
6. Is ignitable or reactive waste treated before being placed in the landfill? Explain how you know.	___	___	___
7. Are precautions taken to insure that incompatible wastes are not placed in the same landfill cell? If "NO", explain.	___	___	___
8. Are bulk or non-containerized wastes containing free liquids placed in the landfill?	___	___	___
If "YES",			
a. Does the landfill have a liner which is chemically and physically resistant to the added liquid?	___	___	___
b. Is the waste treated and stabilized so that free liquids are no longer present?	___	___	___
*9. Are containers holding liquid waste or waste containing free liquids placed in the landfill?	___	___	___
10. Are empty containers (e.g. those containing less than 1/2 inch of liquid) placed in the landfills?	___	___	___
If so, are they crushed flat, shredded or similarly reduced in volume before they are buried?	___	___	___
11. What is the approximate area of the hazardous waste landfill?			

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* Effective date for this requirement is November 19, 1981.

4.11.22

INCINERATORS AND THERMAL TREATMENT (§§265.340 and 265.379)

N/A

	YES	NO	DON'T KNOW
1. What type of incinerator or thermal treatment is at the site (e.g. waterwall incinerator, boiler, fluidized bed, etc.)?			
2. Was hazardous waste being incinerated or thermally treated during your inspection? If "YES", answer all following questions. If "NO", answer only questions 3 and 7.	---	—	—
3. Has waste analysis been performed (and written records kept) to include:			
- heating value of the waste	—	—	—
- halogen content	—	—	—
- sulfur content	—	—	—
- concentration of lead	—	—	—
- concentration of mercury	—	—	—
NOTE: Waste analysis need not be performed on each waste load if if there are documented data available to show waste characteristics that do not vary. If there are such documented data available, check here [ ].			
4. Does it appear that the owner/operator brings his thermal treatment process to steady state (normal) conditions of operation before introducing hazardous wastes?	—	—	—
5. Did it appear during your inspection that there was adequate monitoring and inspection by owner/operator every 15 minutes during hazardous waste incineration for:			
- waste feed	—	—	—
- auxiliary fuel feed	—	—	—
- air flow	—	—	—
- incinerator temperature	—	—	—
- scrubber flow	—	—	—
- scrubber pH	—	—	—
- relevant level controls	—	—	—
Every hour for:			
- stack plume (color and opacity)	—	—	—
5. Is there open burning of hazardous waste?	—	—	—

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a. If "YES", what is being burned? (only burning or detonation of explosives is permitted)

b. If open burning or detonation of explosives is taking place, approximately what is the distance from the open burning or detonation to the property of others?

	YES	NO	DON'T KNOW
6. Does the incinerator appear to be operating properly? (Do emergency shutdown controls and system alarms seem to be in good working order?) Please explain.			
a. Is there any evidence of fugitive emissions?			
7. Is the residue from the incinerator treated by the owner as a hazardous waste? Please explain.			

8. What types of air pollution control devices (if any) are installed on the incinerator?

CHEMICAL, PHYSICAL AND BIOLOGICAL TREATMENT (§265.400) N/A

1. Does the treatment process system show any signs of ruptures, leaks, or corrosion? Please explain.			
2. Is there a means to stop the inflow of continuously-fed hazardous wastes?			
3. Is there ignitable or reactive waste fed into the treatment system?			
If "YES", has it been treated or protected from any material or conditions which may cause it to ignite or react? If so, explain how.			
Are the incompatible wastes placed in the same treatment process? If "YES", explain.			

5. Describe the treatment system at this facility.

File 4.13.22

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
INDUSTRIAL WASTE AND HAZARDOUS MATERIALS CONTROL
65 JETSON LA., P.O. BOX G, CENTRAL ISLIP, N.Y. 11722
(516) 234-2622

NAME OF FACILITY	OWNER/OFFICER George Lawrence.	PAGE I OF
COMPANY NAME HWD INC.	CONTACT	TEL.
PLANT ADDRESS PICONE BLVD. VILLAGE Farmingdale	TOWN Bab.	ZIP
MAILING ADDRESS		
DATE 14 Sept. 82 TIME 9:00 AM ORIG. PERIODIC (RE)	WASTE NO WASTE (H&H)	SEWAGE SYSTEM PUBLIC PRIVATE

INDUSTRY Industrial Waste Scavenger.	
SPDES OR NPDES PERMIT? YES NO PERMIT NO.	360 PERMIT? YES NO PERMIT NO.
SCAVENGER	TEL.
SCAVENGER APPROVED YES NO / PICK UP RECORDS AVAILABLE YES NO	RECORDS CONSISTENT WITH EXPECTED WASTE GENERATION YES NO

HEATING SYSTEM-MFG. NAME	FUEL TYPE	FIRING RATE
INCIN. NAME	WASTE BURNED	RATE

DRUM STORAGE (YES) NO	NUMBER OF DRUMS STORED 840-contain material 420-empty	TYPE OF MATERIAL STORED WASTE RAW (BOTH)
TANK STORAGE (YES) NO	ABOVE GROUND X UNDER GROUND BOTH	TYPE OF MATERIAL STORED (WASTE) RAW BOTH
HAVE TANKS BEEN REGISTERED YES (NO)	CONDITION OF ABOVEGROUND TANKS GOOD FAIR (POOR) →	ANY ART. XII VIOLATIONS (YES) NO

(1) Spills noted in drum storage area were cleaned up with absorbant material.

(2) Empty drums outside dyked area had material within them.

(3) Drums Containing material 840x55gal.
Drums empty- 420x55gal.

(4) Article 12 Violations → Outside, unsecured, pad not impervious.

PERMISSION IS GRANTED BY THIS FACILITY TO THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES TO CONDUCT ROUTINE SAMPLING OF CESSPOOLS, STORMDRAINS, AND OTHER DISCHARGE POINTS AT THE FACILITY.

REINSPECTION SCHEDULED ON OR AFTER ________. FAILURE TO CORRECT UNSATISFACTORY CONDITIONS BY REINSPECTION DATE MAY RESULT IN A HEARING AND/OR FINE.

DAVID OBRIG

SIGN. OF PERSON REC. REPORT	TITLE	INSPECTOR David O[illegible]

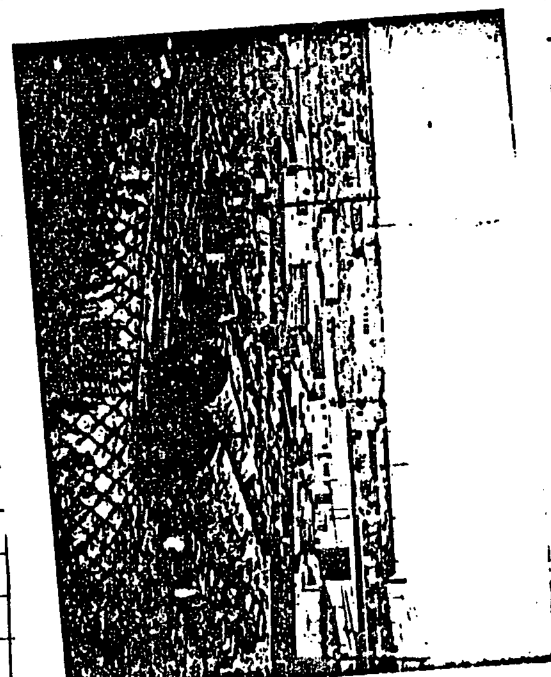
18 155 6/81 5/81 TJK

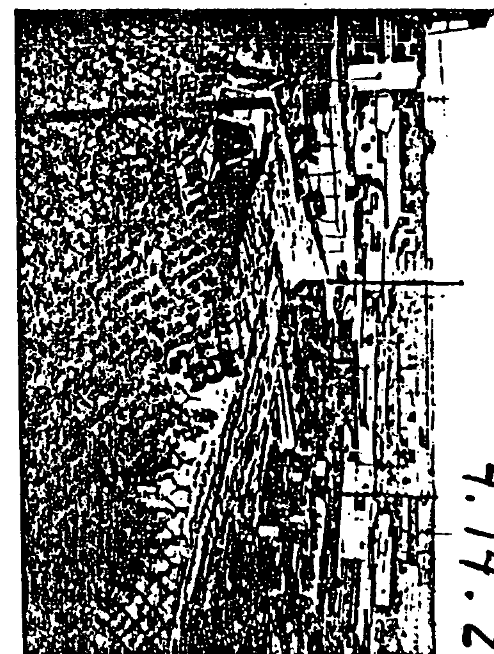
INDUSTRIAL WASTE PROCESS

NO.	PROCESS	CHEMICALS USED AND APPROXIMATE QUANTITY	DISCHARGE	DISCHARGE TO
(5)	(a) Furthest west blue sludge	tank, 8-12" MATERIAL.		
	(b) Next to furthest west ,	8-12" LIQUID (BLACK) 8-12" MATERIAL (SLUDGE)		
(6)	Blue tank middle of drums,	1/2 full as per Geo. Lawrence.		
(7)	Pit, cover with black pla	stic full to top sludge.		
(8)	2x blue dumpsters, each 1/2	full, by inspection.		

NO.	PROCESS

HUD INC.
PICONE BLVD. FARMINGDALE, NY
14 Sept 82





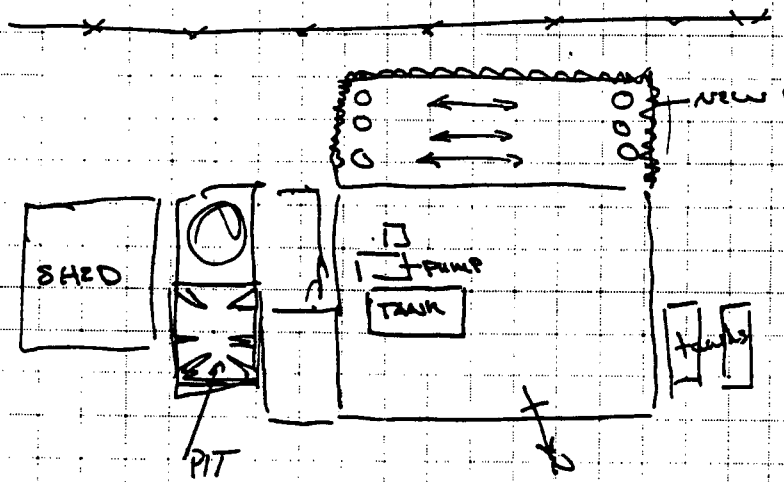
4.14.22

SUFFOLK COUNTY
DEP'T OF
HEALTH SERVICES

JOB HWD INC 4.15.22
SHEET NO. PICONIC BLVD. FARMINGDALE OF
CALCULATED BY B DATE
CHECKED BY DATE
SCALE

30 JUNE 82 - 1150 AM

Log ✓ Reinsp
New Letter
Art XII ✓ Sample
Air File
Alex S. ✓



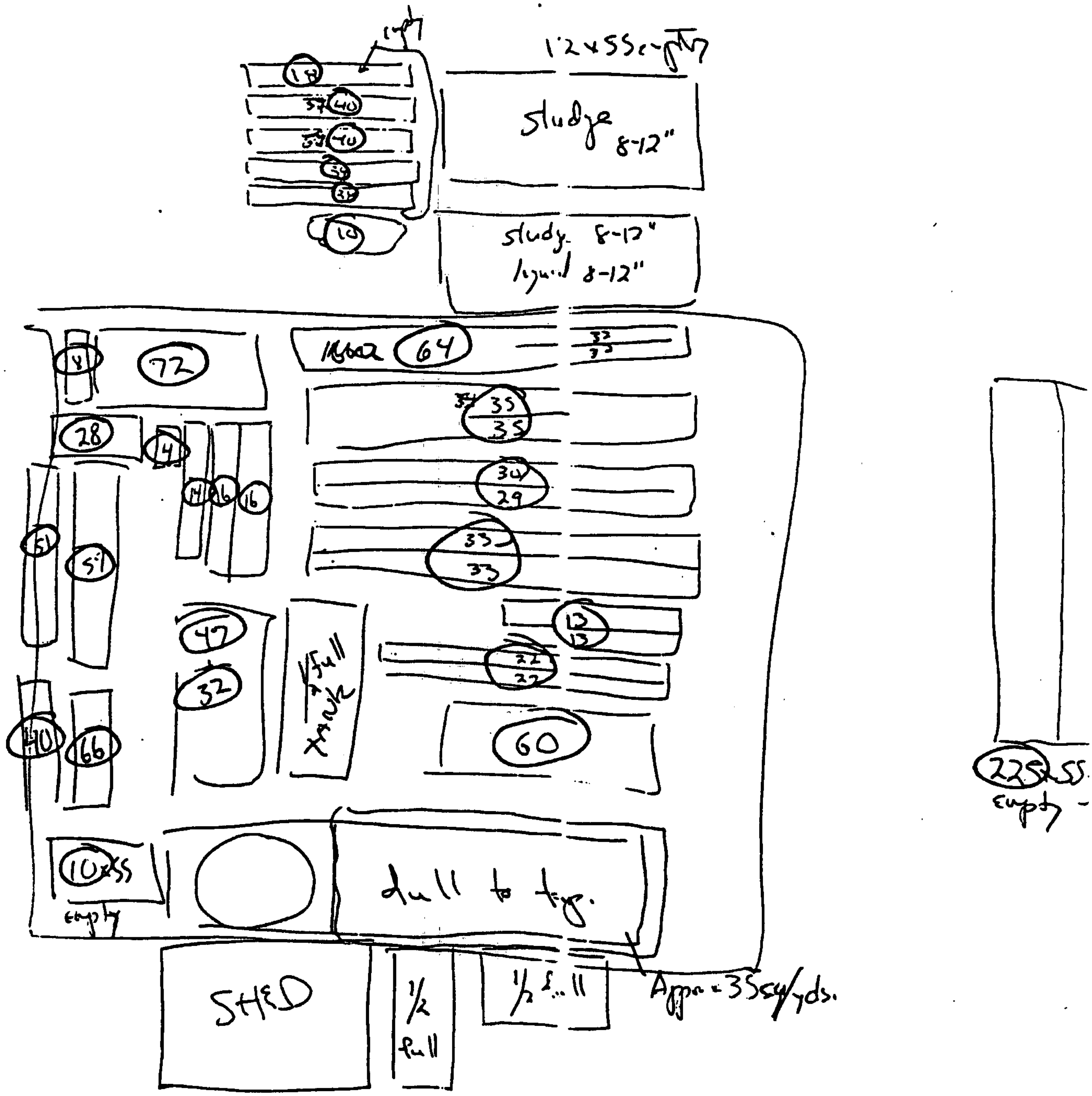
(1) OBSTRUCTED NO WORK AT SITE DURING INSPECTION.
(2) OBSERVED NO OBVIOUS SPILLS
(3) Drums were uncovered + exposed to weather.

(4) New pad area has been constructed to the South of the old drum storage. Drums two (2) high have been stored between the berm + the transfer pump.

(5) Waste pit North of Acid/Base mix tank covered with black plastic.

Dr. Oberg

4.16.22



15 Sept - Acid tank to be pumped

Spill in drum area had absorbent material on them

Empty drums and silo dumpsters had residue in some.

4.17.22

MEMORANDUM

TO: James C. Maloney, P.E.

FROM: John V. Soderberg, P.E.

DATE: March 12, 1981

RE: Hazardous Waste Disposal (H.W.D.)

On March 11, 1981 the writer was requested to accompany representatives of the Toxic Waste Handling Group in their investigation of the above premises.

At the time of my inspection there were no visible emissions occurring from the process tank in question. However, the East Farmingdale Fire District indicated a visible plume of from 150 to 200' in vertical height on or about noon of that date.

As part of my inspection, I spoke with representatives of Pront Printing (110 Picone Boulevard, Farmingdale). They indicated that the situation has been occurring sporadically since last September and was particularly severe last Summer. Concerning the specific incident, they were unsure about specifics and reported no property damage or lost time that they can contribute directly to the incident.

I recommend first that a detailed industrial survey be made of the premises and secondly that the firm be placed under routine surveillance for at least three months.

JVS:mew

4.18.22

MEMORANDUM

TO: JAMES C. MALONEY

FROM: JOHN V SODERBERG

DATE: MARCH 16, 1981

RE: H W D.

In follow up to my memo concerning the March 11, 1981 investigation of the above firm, an air pollution emission inspection was not performed at that time (due to inclement weather and potential safety hazard).

The water pollution file contains no information either confirming of denying the presence of such sources (only the H. W. D. environmental check-list submitted by them to Babylon Town indicating no process emissions).

I have therefore requested that such a survey be performed.

JVS:ets

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
INDUSTRIAL WASTE AND HAZARDOUS MATERIALS CONTROL
65 Jetson Lane, P.O. Box G, Central Islip, NY 11722
(516) 234-2622, 4260

4.19.22

OF ...ITY	OWNER/ OFFICER	PAGE 1 OF
COMPANY NAME	CONTACT	TEL.
PLANT ADDRESS	VILLAGE TOWN	ZIP
MAILING ADDRESS		

DATE 12MAY 81-	TIME	ORIG.	PERIODIC	RE.	WASTE	NO WASTE	H & H	SEWAGE SYSTEM	PUBLIC PRIVATE

INDUSTRY

SPDES OR SPDES PERMIT? YES NO EXEMPT NO.	360 PERMIT? YES NO	PERMIT NO.

INDUSTRIAL PROCESSES

NO.	PROCESS	CHEMICALS USED AND APPROXIMATE QUANTITY	IND. LIQUID WASTE DISCHARGE	DISCHARGED TO	AIR POL SOURCE
	MR. JOSEPH PICONE ⇒				
		Pipe ended immediately North of Dryers			
	property. End of pipe was covered up approx.			6-7 years	
	ago. Storm drains in garden may not be				
	connected.				

SCAVENGER TEL.

SCAVENGER APPROVED YES NO	PICK UP RECORDS AVAILABLE YES NO	RECORDS CONSISTENT WITH EXPECTED WASTE GENERATION YES NO

AIR POLLUTION SOURCES

NO.	PROCESS	AIR POL. SOURCE DESCRIPTION	EMISSION POINTS	TYPE OF EMISSION	AMT. OF EMISSION/CONSUMP	HOURS/ OP.	CONTROL TYPE

HEATING SYSTEM- FUEL TYPE	MFG. NAME	FIRING RATE
INCIN. SIZE	WASTE BURNED	CHARGING RATE

PERMISSION IS GRANTED BY THIS FACILITY TO THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES TO CONDUCT ROUTINE SAMPLING OF CESSPOOLS, STORMDRAINS, AND OTHER DISCHARGE POINTS AT THE FACILITY.

INSPECTION SCHEDULED ON OR AFTER _____. FAILURE TO CORRECT UNSATISFACTORY CONDITIONS BY REINSPECTION DATE MAY RESULT IN HEARING AND/OR FINE.

SIGN. OF PERSON REC. REPORT	TITLE	INSPECTOR

4.20.81

INFORMATION OBTAINED FROM MR. JOSEPH PICONE, OF JOSEPH PICONE + SON INC. AT #1637 BROAD HALLOW RD. FARMINGDALE.

I INTERVIEWED MR JOSEPH PICONE ON MAY 5, 1981, BETWEEN 1[0]5 - 3[0]5 IN THE AFTERNOON AT HIS OFFICE AT 1637 BROAD HALLOW RD. FARMINGDALE.

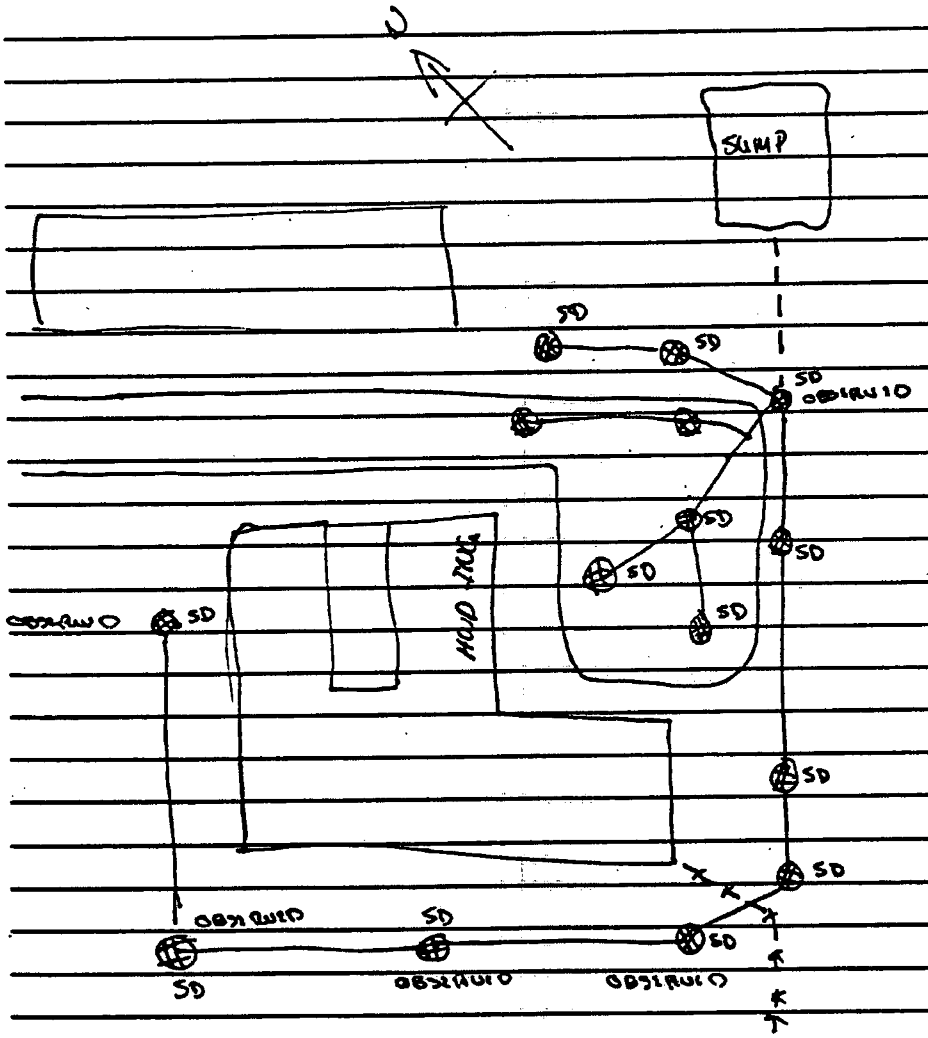
THE INFORMATION REQUESTED WAS THE CONSTRUCTION DETAILS CONCERNING THE STREET STORM DRAIN SYSTEM LOCATED ON PICONE BLVD. FARMINGDALE.

MR. PICONE TOLD ME THAT HE INSTALLED THE STORM DRAIN SYSTEM HIMSELF. WE THEN LEFT MR PICONE'S OFFICE AND BY CAR INSPECTED THE AREA IN QUESTION. WE DID NOT GO TO THE IMMEDIATE VICINITY OF HWD INC. BECAUSE THE ROAD WAS BLOCKED BY TRUCKS. HOWEVER MR. PICONE STATED THAT ALL THE STORM DRAINS IN THAT VICINITY DO RUN INTO A COMMON PIPE WHICH RUNS INTO THE SMALL SUMP LOCATED TO THE NORTH EAST OF HWD INC. [redacted]. AT ONE TIME THE PIPE ACTUALLY ENTERED THE SUMP, BUT HAS BEEN FILLED IN AND THE END OF THE PIPE COVERED. MR. PICONE SAID THAT THE DRAINAGE SYSTEM STILL WORKS BECAUSE ONLY DURING THE HEAVIEST OF RAIN DO THEY HAVE ANY RUN-OFF PROBLEMS.

MR. PICONE ALSO STATED THAT THERE HAS ANY IRREGULARITY. HE HAS ASKED HWD. INC. TO UPDATE THEIR ESTABLISHMENT BY JUNE 1, 1981

CONTINUED: INSPECTORS OBSERVATIONS OR INTERVIEWS 4.21.22

(2)



FILE UNDER HWD INC.

4.22.22

CONTINUED: INSPECTORS OBSERVATIONS OR INTERVIEWS

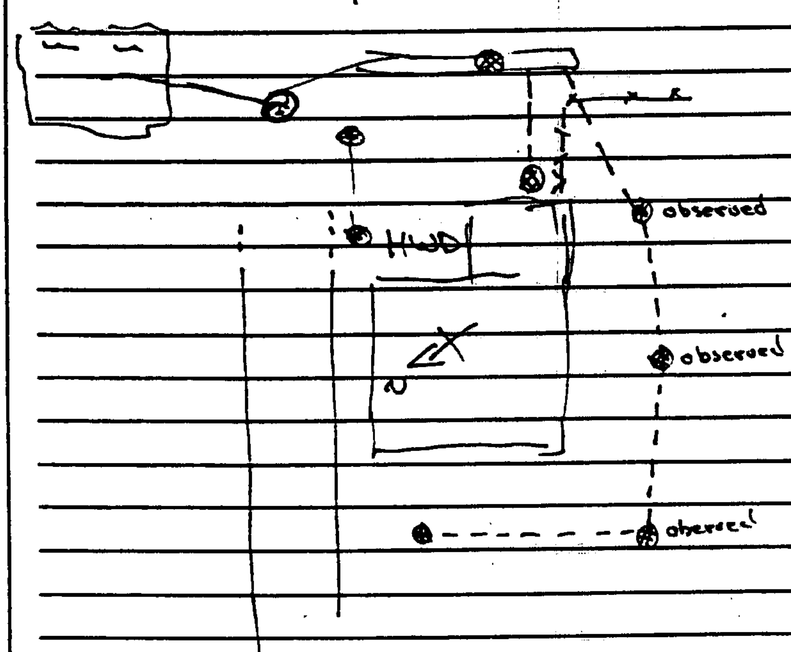
5 MAY 81 JOSEPH PICONE + SON INC. 249-5800 1:03 pm – 3:05 pm

Information obtained from interview with Mr. Joseph Picone, of Little Joseph ~~Mobile~~ Realty Inc. located at Rt 110, Farmingdale, #1637 Broadhollow Rd.

The storm drain system was installed by Mr. Picone himself on Picone Blvd. in the vicinity of HWD Inc.

I accompanied Mr. Picone to the location and he pointed out the various drains and how they ran. We did not go to the immediate vicinity of HWD Inc. because the road was blocked by trucks. However Mr. Picone stated that all the storm drains in that vicinity do ~~[illegible]~~ run into a common pipe which runs towards the small sump located to the North East of the HWD Inc. property. At one time the pipe actually entered the sump, but the sump has been filled in and the end of the pipe has been covered. Mr. Picone said the the system still ~~[illegible]~~ works because only during the heaviest of rain do they have any run off problems.

Mr. Picone also stated that ~~[illegible]~~ thru his ~~[illegible]~~ lawyer he has asked HWD Inc. to ~~[illegible]~~ vacate their establishment by June 1, 1981.



DAVID CRAIG

David Craig

5.1.5

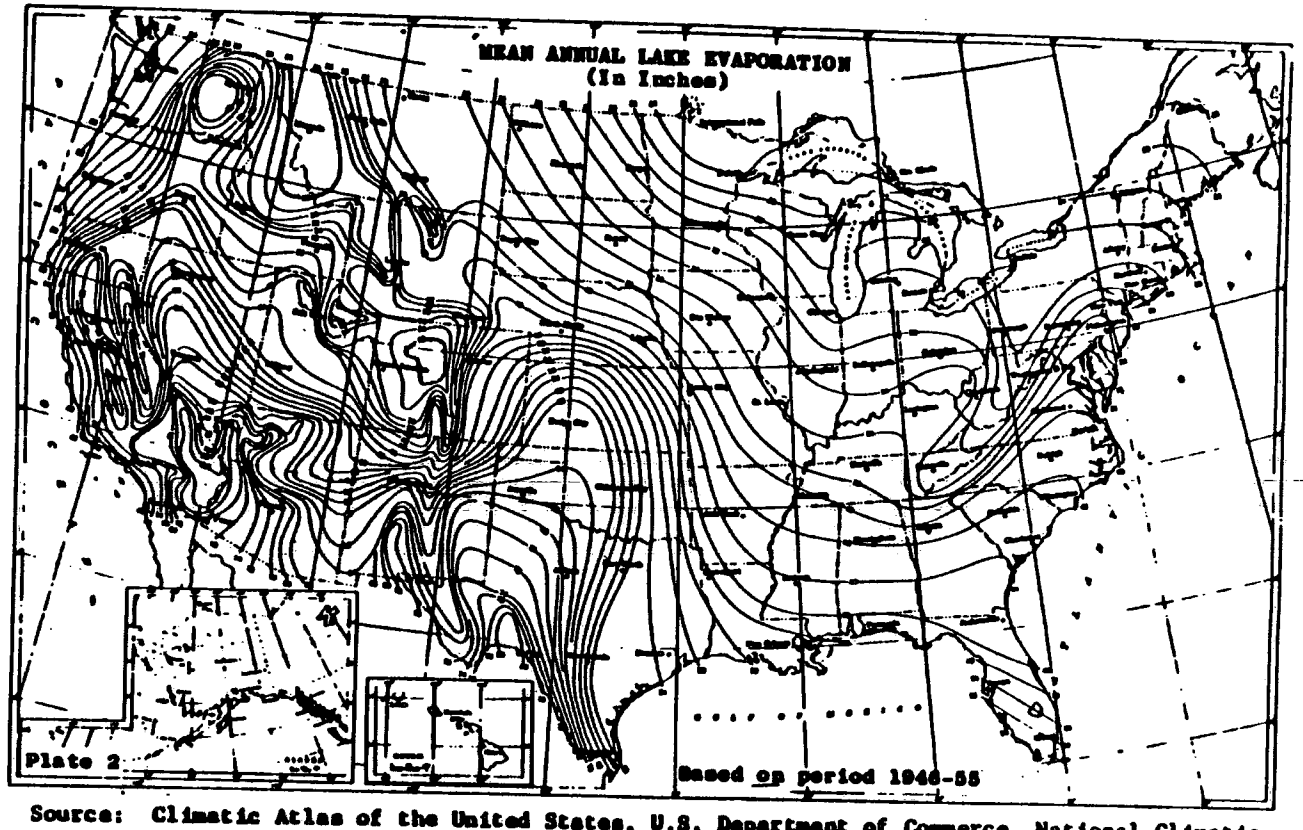
Uncontrolled Hazardous Waste Site Ranking System

A Users Manual
(HW-10)

Originally Published in
the July 16, 1982, *Federal Register*

United States
Environmental Protection
Agency

1984



Source: Climatic Atlas of the United States, U.S. Department of Commerce, National Climatic Center, Ashville, N.C., 1979.

FIGURE 4
MEAN ANNUAL LAKE EVAPORATION
(IN INCHES)

5.2.5

TABLE 2

PERMEABILITY OF GEOLOGIC MATERIALS*

Type of Material	Approximate Range of Hydraulic Conductivity	Assigned Value
Clay, compact till, shale; unfractured metamorphic and igneous rocks	$<10^{-7}$ cm/sec	0
Silt, loess, silty clays, silty loams, clay loams; less permeable limestone, dolomites, and sandstone; moderately permeable till	$10^{-5} - 10^{-7}$ cm/sec	1
Fine sand and silty sand; sandy loams; loamy sands; moderately permeable limestone, dolomites, and sandstone (no karst); moderately fractured igneous and metamorphic rocks, some coarse till	$10^{-3} - 10^{-5}$ cm/sec	2
Gravel, sand; highly fractured igneous and metamorphic rocks; permeable basalt and lavas; karst limestone and dolomite	$>10^{-3}$ cm/sec	3

*Derived from:

Davis, S. N., Porosity and Permeability of Natural Materials in Flow-Through Porous Media, R.J.M. DeWest ed., Academic Press, New York, 1969

Freeze, R.A. and J.A. Cherry, Groundwater, Prentice-Hall, Inc., New York, 1979

TABLE 4
WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS

CHEMICAL/COMPOUND	Reactivity [1]	Flammability [2]	Ignitability [3]	Incompatibility [1]
Acetaldehyde	3	0	3	2
Acetic Acid	3	0	2	1
Acetone	2	0	3	0
Aldrin	3	3	1	0
Ammonia, Anhydrous	3	0	1	0
Aniline	3	1	2	0
Benzene	3	1	3	0
Carbon Tetrachloride	3	3	0	0
Chlordane	3	3	0*	0*
Chlorobenzene	2	2	3	0
Chloroform	3	3	0	0
Cresol-O	3	1	2	0
Cresol-MAP	3	1	1	0
Cyclohexane	2	2	3	0
Endrin	3	3	1	0
Ethyl Benzene	2	1	3	0
Formaldehyde	3	0	2	0
Formic Acid	3	0	2	0
Hydrochloric Acid	3	0	0	0
Isopropyl Ether	3	1	3	1
Lindane	3	3	1	0
Methane	1	1	3	0
Methyl Ethyl Ketone	2	0	3	0
Methyl Parathion in Xylene Solution	3	0Δ	3	2
Naphthalene	2	1	2	0
Nitric Acid	3	0	0	0
Parathion	3	0Δ	1	2
PCB	3	3	0Δ	0Δ
Petroleum, Kerosene (Fuel Oil No. 1)	3	1	2	0
Phenol	3	1	2	0
Sulfuric Acid	3	0	0	2
Toluene	2	1	3	0
Trichlorobenzene	2	3	1	0
α- Trichloroethane	2	2	1	0
Xylene	2	1	3	0

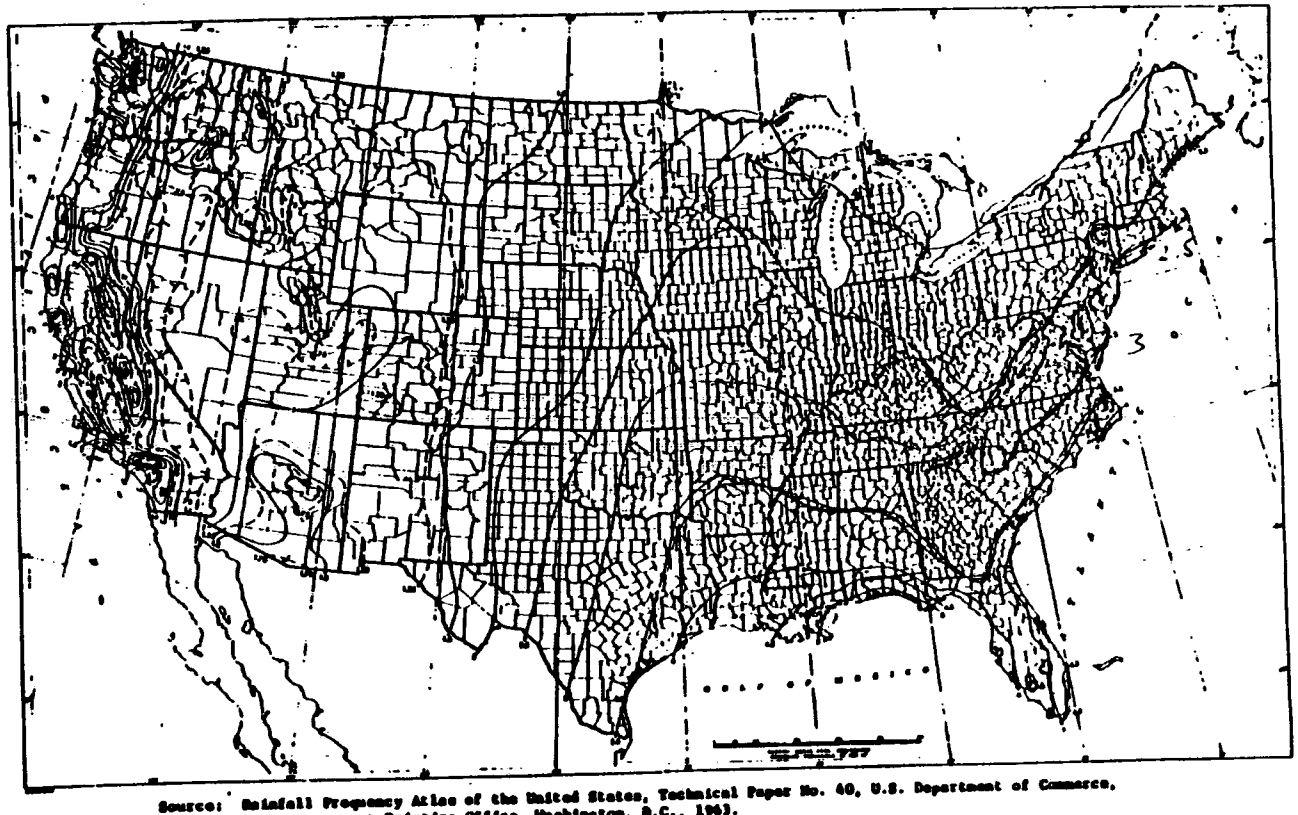
[1] Sax, N. I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, 4th ed., 1975. The highest rating listed under each chemical is used.

[2] JRB Associates, Inc., Methodology for Rating the Hazard Potential of Waste Disposal Sites, May 5, 1980.

[3] National Fire Protection Association, National Fire Codes, Vol. 13, No. 49, 1977.

* Professional judgment based on information contained in the U.S. Coast Guard CHRIS Hazardous Chemical Data, 1978.

Δ Professional judgment based on existing literature.



Source: Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Department of Commerce, U.S. Government Printing Office, Washington, D.C., 1963.

FIGURE 8
1-YEAR 24-HOUR RAINFALL
(INCHES)

7.1.5

ROUX ASSOCIATES, INC.

Telephone Conversation Sheet

Caller J. Byrnes

Company E. Farmingdale Water District

Contact Mr. John Ferrera **Telephone #** (516) 2994211

DATE	COMMENTS
7/8/87	Mr. Ferrera informed me that presently 4 public supply-wells are in operation supplying ground water to 5200 people.
	four wells @ #21222-72 Gazza Blvd
	#31 - 1000 ft North of Daniel St. on Rt 110.
	#41 - Intersection of New Highway and South State Pkwy.
	Boundaries of District:
	West - Suffolk - Nassau Co. line
	East - Wellwood Ave
	North - Babylon - Oyster Bay town line
	South - Southern state Pkwy

7.2.5

ROUX ASSOCIATES, INC.

Telephone Conversation Sheet

Caller J. Byrnes

Company S. Farmingdale Water District

Contact Mr. Limblade Telephone # (516) 249-3330

DATE	COMMENTS
7/8/87	Mr. Limblade informed me that the district has 11-supply-wells in operation serving from 45-48000 people
	Boundaries of District:
	West - Hicksville Rd.
	East - Carmens Rd
	North - Hempstead Tpke
	South - Jerusalem Ave

ROUX ASSOCIATES, INC.

Telephone Conversation Sheet

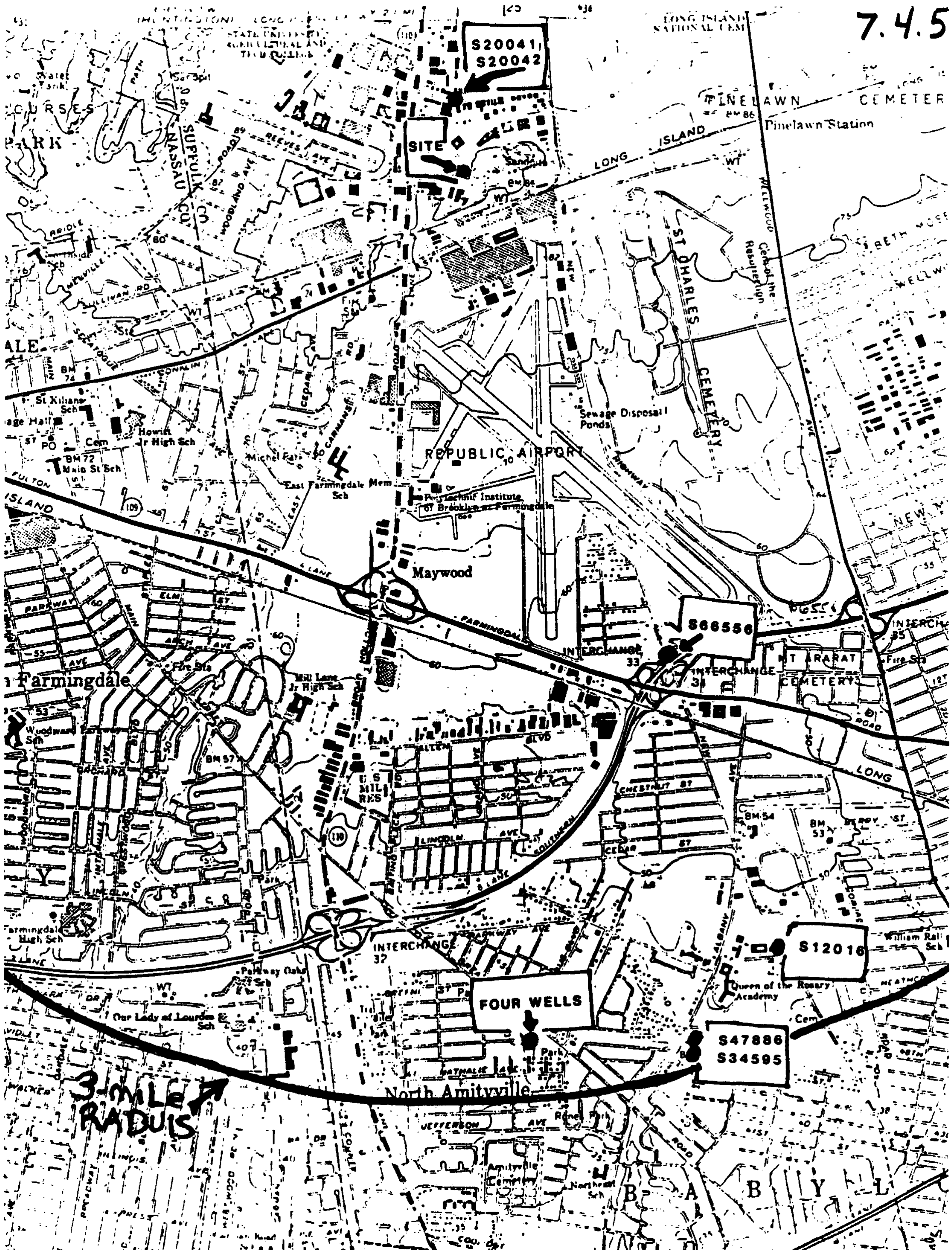
Caller J. Byrnes

Company Plainview - Bethpage Water District

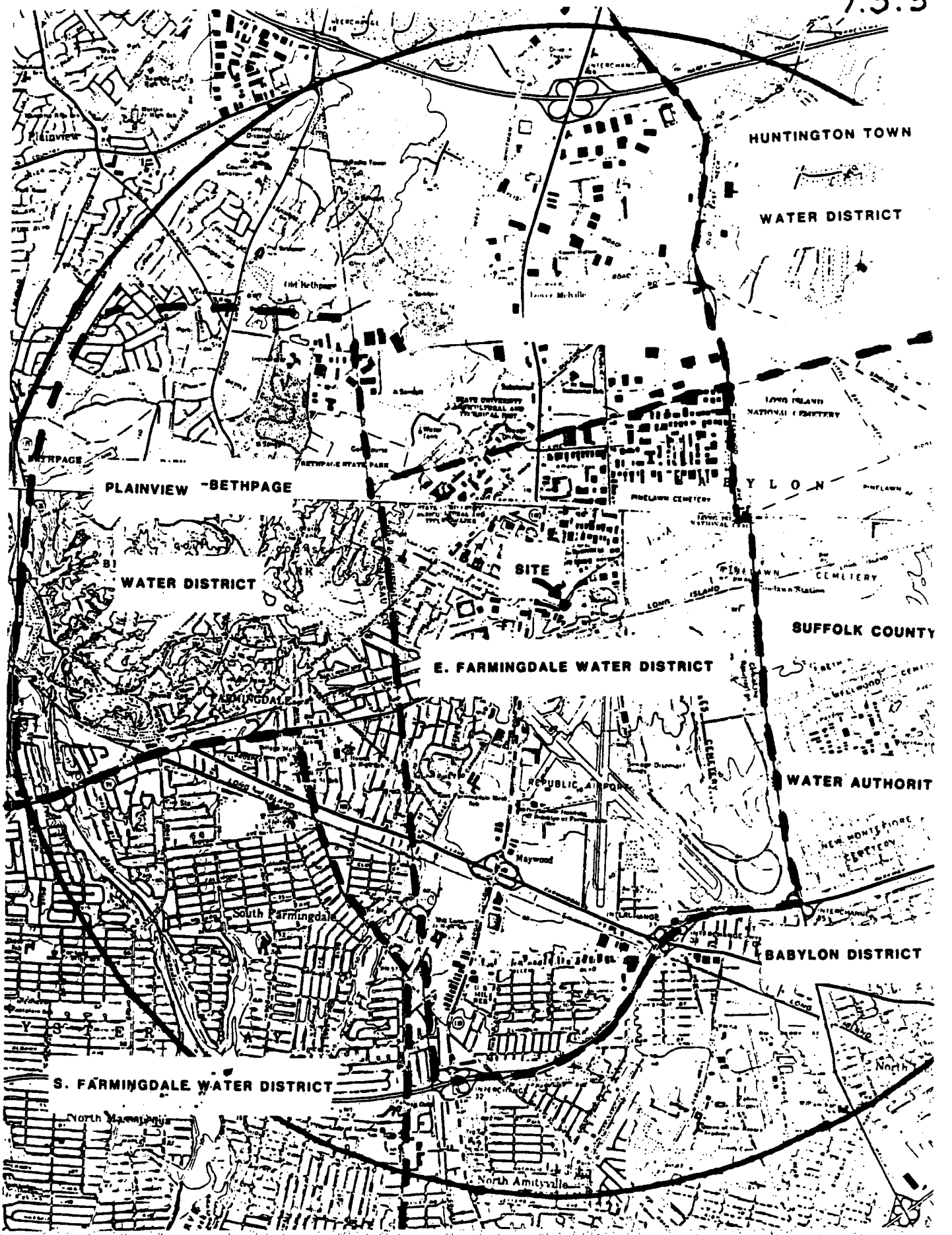
Contact _____ Telephone # (516) 931-0093

Huntington Town Water District (516) 4270305

DATE	Mr. K. Bonneau COMMENTS
7/13 Plainview-Bethpage Water Dist	8,300 Served by supply wells. Boundaries: West - Seaford Oyster Bay Exp. St. James Sch. North - Brian & Lark South - Larkspur East - Booker - Suffolk & Nas.
7/13 Huntington Water District	[redacted] Has 9000 accounts in District. 9000 x 3.8 (# of people per household) = 34,200 Boundaries: W - Pinelawn Rd E - Commack Rd N - Old Country Rd S - Bagatelle Ave (Babylon - Huntington Boarder)

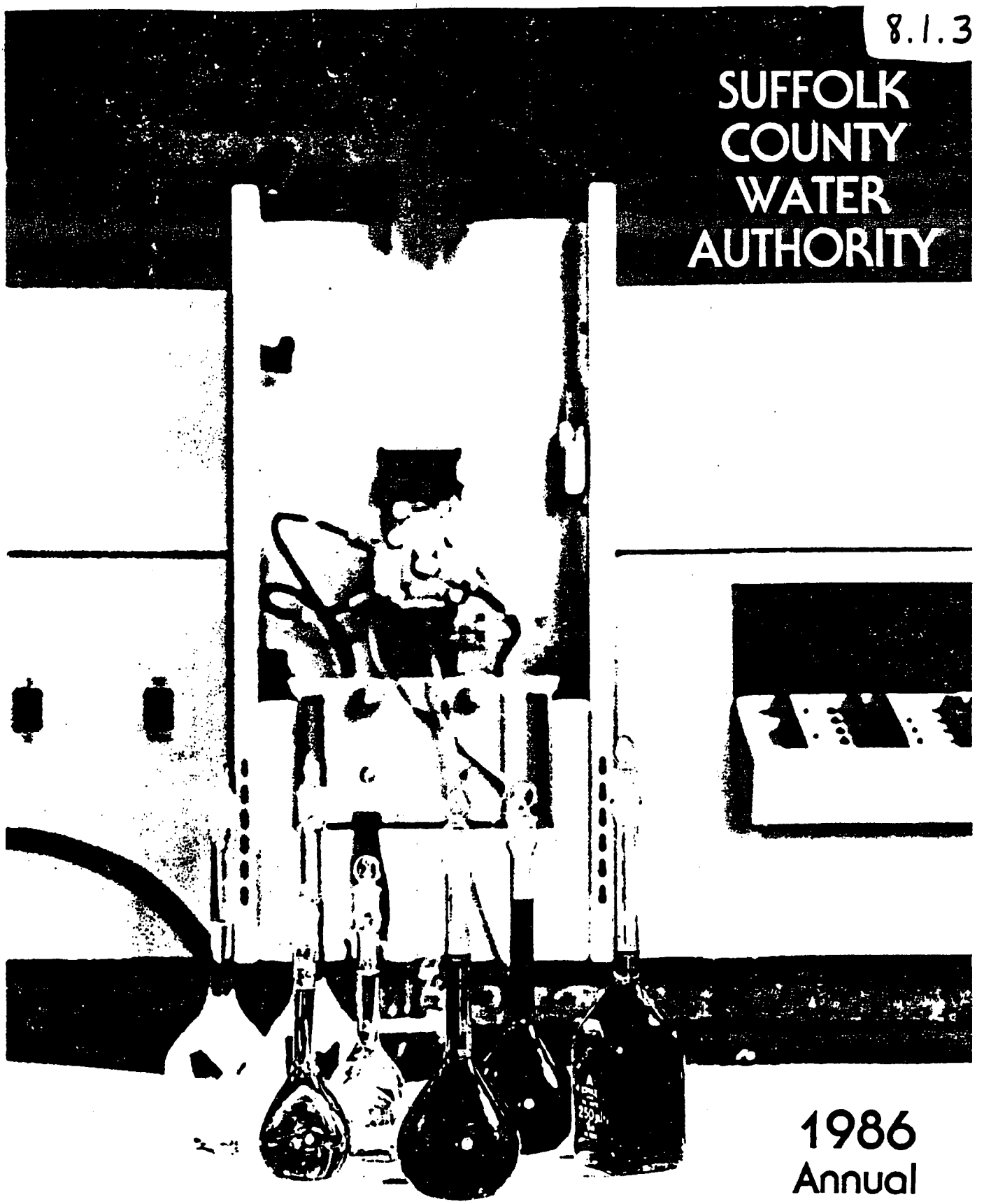

S20041
S20042
SITE
PINELAWN CEMETERY
Pinelawn Station
LONG ISLAND
SUFFOLK CO
NASSAU CO
ST CHARLES CEMETERY
Cem of the Resurrection
Sewage Disposal Ponds
REPUBLIC AIRPORT
Polytechnic Institute of Brooklyn at Farmingdale
East Farmingdale Sch
Maywood
S66556
INTERCHANGE 33
INTERCHANGE 34
INTERCHANGE 35
MT ARARAT CEMETERY
Farmingdale
Mill Lane Jr High Sch
Woodward Parkway Sch
US MIL RES
Howitt Jr High Sch
Main St Sch
St Kilians Sch
S12016
William Rall Sch
Queen of the Rosary Academy
FOUR WELLS
INTERCHANGE 32
Parkway Oaks Sch
Our Lady of Lourdes Sch
Farmingdale High Sch
S47886
S34595
North Amityville
Amityville Cemetery
Northeast Sch
3 MILE RADIUS

7.5.5


HUNTINGTON TOWN
WATER DISTRICT
PLAINVIEW -BETHPAGE
WATER DISTRICT
SITE
SUFFOLK COUNTY
E. FARMINGDALE WATER DISTRICT
WATER AUTHORIT
BABYLON DISTRICT
S. FARMINGDALE WATER DISTRICT
Plainview
Bethpage
Farmingdale
South Farmingdale
Maywood
North Amityville

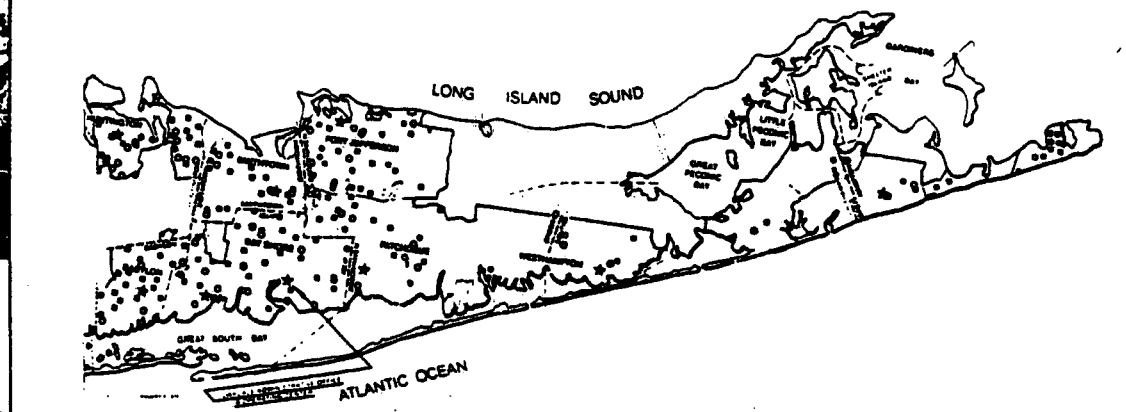
8.1.3

SUFFOLK COUNTY WATER AUTHORITY



1986 Annual Report

Communities Served



□ SCWA SERVICE AREAS ■ WELL FIELD & PUMP STATIONS ★ COMMERCIAL OFFICES ○ STORAGE FACILITY

BABYLON DISTRICT
Amity Harbor
Amityville
Babylon
Copiague
Deer Park
Dix Hills
Lindenhurst
North Amityville
North Babylon
North Lindenhurst
Pinelawn
West Babylon
Wheatley Heights
Wyandanch

BAY SHORE DISTRICT
Bay Shore
Brentwood
Brightwaters
Central Islip
East Islip
Edgewood
Great River
Islip
Islip Terrace
North Bay Shore
North Great River
Oakdale
West Bay Shore
West Islip

HUNTINGTON DISTRICT
Asharoken
Centerport
Cold Spring Harbor
Commack
Crab Meadow
East Huntington
East Neck
East Northport
Eatons Neck
Fort Salonga
Halesite
Huntington
Huntington Bay
Huntington Station
Lloyd Harbor
Northport

EAST HAMPTON DISTRICT
Amagansett
East Hampton
Freetown
Montauk
North Sea
Sag Harbor
Southampton

PATCHOGUE DISTRICT
Bayport
Bellport
Blue Point
Bohemia
Brookhaven
Coram
East Holbrook
East Patchogue
Farmingville
Gordon Heights
Holbrook
Holtsville
Lakeland
Lake Ronkonkoma
Mastic
Mastic Beach
Medford
North Bellport
North Patchogue
Patchogue
Ronkonkoma
Sayville
Selden
Shirley
South Centereach
South Holbrook
South Yaphank
West Bellport
West Ronkonkoma
West Sayville
Yaphank

PORT JEFFERSON DISTRICT
Belle Terre
Centereach
Coram
East Setauket
Lake Grove
Middle Island
Miller Place
Mount Sinai
North Centereach
North Selden
Poquott
Port Jefferson
Port Jefferson Station
Ridge
Rocky Point
Setauket
South Setauket
Sound Beach
South Stony Brook
Stony Brook*
Strongs Neck
Terryville

SMITHTOWN DISTRICT
East Commack
Flowerfield*
Hauppauge
Kings Park
Nesconset
Saint James*
San Remo*
Smithtown
South Hauppauge
West St. James
West Smithtown*
Village of Head of The Harbor
Village of The Branch

WESTHAMPTON DISTRICT
Center Moriches
East Moriches
Eastport
East Quogue
Moriches
South Manor
Quiogue
Quogue
Westhampton
Westhampton Beach

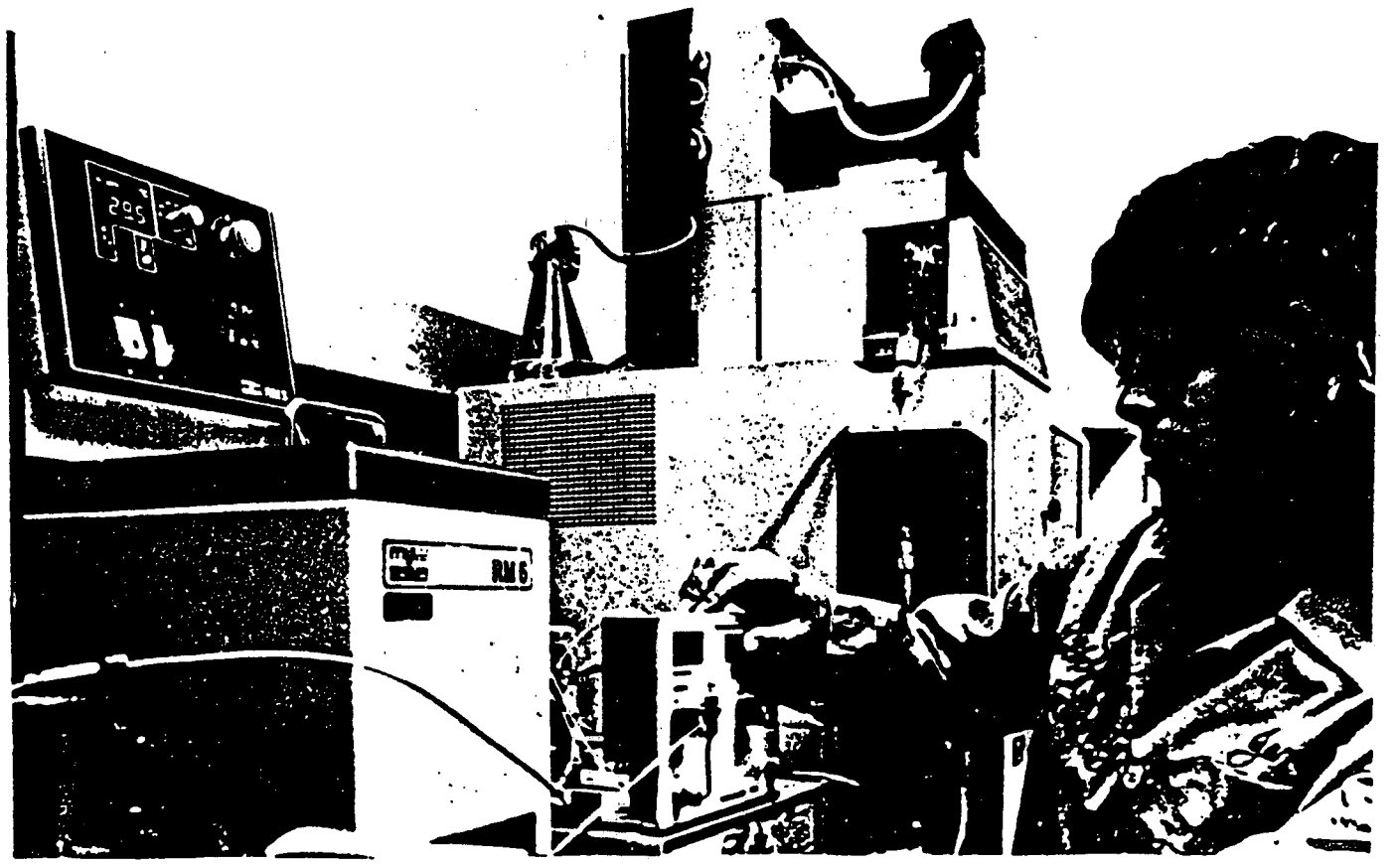
* Included in Wholesale Water District

Plant Facilities

AS OF MAY 31, 1985 ☐ AS OF MAY 31, 1986 ☐

Service Areas or Plants	Wells Active		Wells Inactive		Pumping Plants No.		Pumping Plants Capacity-1000 Gals. Daily*		Storage Facilities No.		Storage Facilities Capacity in 1000 Gallons		Active Services	
BABYLON	48	48	8	8	19	19	82,102	82,102	9	8	7,815	7,515	54,311	54,893
BAY SHORE	47	49	14	13	20	20	81,274	83,722	7	7	6,012	6,012	47,485	48,024
EAST HAMPTON	33	32	1	2	18	18	23,652	22,860	4	5	3,720	5,720	10,675	10,948
HUNTINGTON	52	53	3	3	21	21	63,878	64,886	11	11	11,842	11,842	28,676	28,880
PATCHOGUE	65	66	8	7	27	27	108,792	110,592	11	11	11,465	11,465	53,377	52,131
PORT JEFFERSON	67	69	2	1	28	28	107,741	109,901	7	7	7,404	7,404	33,885	34,880
SMITHTOWN	48	48	3	3	21	21	83,578	83,578	6	6	6,100	6,100	23,398	23,772
WESTHAMPTON	23	23	—	—	7	7	16,524	16,524	3	4	2,350	3,350	4,724	9,301
TOTALS	383	388	39	37	161	161	567,541	574,165	58	59	56,708	59,408	256,531	262,829

*Based on 24-hour operation and on actual capacity of pumping equipment for active wells.



9.1.9

USGS HEADER FILE 1987

Public-Supply and Observation Well Data

USGS
5 Aerial Way
Syosset, New York

S	1328.	14046470732520	4046470732520		7	SO	194	4156	3	00	46	000	0	0	004				
S	1329.	14046470732520	4046470732520		7	SO	194	4156	3	00	60	000	0	0	005				
S	1330.	14046470732520	4046470732520	211MGTY	7	SO	194	4156	3	260	60	000	0	0	002				
S	1661.	14041560732123	4041560732126	211MGTY	7	SO	452	0	0	0	00	0	000	0	0	001			
S	1662.	14041560732123	4041560732125	211MGTY	7	SO	452	0	0	0	00	0	000	0	0	001			
S	3572.	14050507327100	4050050732710		7	SF	318	7	0	0	00	26010470		0	0	001			
S	3574.	14050507327100	4050050732710		7	SF	318	7	0	0	00	24310559		0	0	002			
S	6251.	14046340732431	4048340732431	211MGTY	7	SH	435	7151	01440		202	000	149	0	20701				
S	9771.	14050460731614	4050480731615	112GLCLU7		SH	963	11169	01400		147	000	126	146	15101				
S	10641.	14042200731903	4042190731905	112GLCLU7		SO	594	4157	0	190	60	000	37	58	6001				
S	11891.	14050540731510	4050540731510	112GLCLU7		SH	1024	11182	0	700	119	6814	86	108	32801				
S	12016.	14042020732423	4042030732422	112GLCLU7		SN	296	0	0	0	00	0	000	0	0	001			
S	12079.	14047500732415	4047500732415	211MGTY	7	SJ	431T	7148	01410		445	000	364	444	60201				
S	12150.	14051260732736	4051260732736	112GLCLU7		SE	326	7131	0	700	307	000	266	305	30802				
S	13175.	14050150732343	4050150732343	112GLCLU7		SG	513T	7151	01780		263	000	169	263	41802				
S	13534.	14046310731504	4046290731504	112GLCLU7		SM	907T	8187	0	620	126	000	89	119	12601				
S	13976.	14050150732638	4050150732638	211MGTY	7	SF	358	7151	01200		298	000	246	298	44801				
S	14213.	14042010732423	4042030732424	112GLCLU7		SN	286	4156	0	350	85	000	54	84	8701				
S	14561.	14051430732019	4051430732019	112GLCLU7		SF	758	7137	02000		552	000	459	552	55201				
S	14829.	14051140732605	4051140732605	112GLCLU7		SF	401	7144	02220		508	000	355	440	59501				
S	15469.	14042030732419	4042030732419	112GLCLU7		SN	286	4166	0	420	87	000	53	87	8901				
S	15776.	14051150732608	4051150732608	112GLCLU7		SF	401	7144	02300		5042	3098	440	500	001				
S	15898.	14046360731633	4046370731634	112GLCLU7		SM	823	8190	0	700	128	7841	95	128	13301				
S	15963.	14051340731559	4051450731554	112GLCLU7		SG	1006	11169	01400		264	000	148	263	36201				
S	16049.	14046320732207	4048320732207	112GLCLU7		SH	579	7133	02100		326	000	266	319	40001				
S	16157.	14050270732503	4050270732503	112GLCLU7		SF	449	7151	01600		604	000	540	602	60401				
S	16175.	14046340731631	4046340731631	112GLCLU7		SM	823	8190	0	700	130	7314	95	130	13001				
S	16176.	14046280731506	4046280731506	112GLCLU7		SM	907	8202	0	620	117	000	81	117	12101				
S	16526.	14047070732521	4047070732521	211MGTY	7	SJ	355T	7148	01200		301	000	0	0	001				
S	16608.	14047330731536	4047330731536		7	SK	929	8189	01100		140	000	110	140	16801				
S	16586.	14046280731505	4046290731505	211MGTY	7	SM	907	4187	0	620	383	000	322	383	65301				
S	19049.	14046010731617	4046040731617	211MGTY	7	SO	773	8198	0	250	727	000	663	726	73501				
S	19554.	14042400732250	4042350732256	112GLCLU7		SN	385	4165	0	450	100	4129	65	100	10501				
S	19565.	14046220732225	4046230732222		7	SM	439	4161	0	00	93	4649	63	0	9801				
S	20041.	14044440732511	4044440732511	112GLCLU7		SL	303	4	0	0	800	268	000	190	264	001			
S	20057.	14046190732251	4046200732245	211MGTY	7	SL	453	4167	0	790	200	8101	170	200	20001				
S	20309.	14046160732251	4046210732243	211MGTY	7	SL	453	4167	0	750	232	6664	201	232	23201				
S	20319.	14047330731531	4047330731531	211MGTY	7	SL	920T	8189	01100		436	000	370	430	60501				
S	20369.	14049360731525	4049360731525	211MGTY	7	SJ	984	11169	01200		312	000	260	310	31201				
S	20403.	14042400732250	4042350732256	211MGTY	7	SN	385T	4165	0	470	499	4856	424	494	76902				
S	20506.	14046170731536	4046340731541	211MGTY	7	SO	320	8187	0	260	755	2964	710	772	75501				
S	20955.	14041560732123	4041550732123	211MGTY	7	SO	453	4166	0	220	630	2299	557	627	63001				
S	21006.	14048090731913	4048090731913	112GLCLU7		SJ	728	7	0	01430		376	000	310	372	40201			
S	21124.	14051340732357	4051340732357	112GLCLU7		SF	532	7146	02200		6002	1800	490	555	62102				
S	21154.	14051060731742	4051060731742	211MGTY	7	SG	887	7169	01600		547	000	489	540	68001				
S	21244.	14046040731620	4046040731615	211MGTY	7	SO	773	8187	0	230	602	2750	465	593	73001				
S	21306.	14046570731816	4046570731816	211MGTY	7	SN	683	8209	0	430	470	4652	414	454	47001				
S	21375.	14046220731903	4046220731904	211MGTY	7	SO	593	4157	0	180	501	2090	445	495	50302				
S	21487.	14046320732224	4046320732224	211MGTY	7	SM	439	4166	0	430	340	000	262	340	34001				
S	22303.	14036210731820	4038210731820	211MGTY	7	B SR	546	4	0	0	100	285	000	273	285	001			
S	23062.	14049570731704	4049570731704	112GLCLU7															

9.2.9

N	7407.	240402073333213	4040020733332	211MGTY	7	NG1298	1	0 0 240	648	2394	480	645	013
N	7414.	140405007326110104040540732613		211MGTY	7	NL1282	3	0 0 220	533	000	373	530	001
N	7421.	140455707327050204045540732706		211MGTY	7	NL 837	3	0 01800	564	000	482	559	001
N	7446.	140464607334430 1	4046460733443	211MGTY	7	NG 637	3	0 02220	498	000	443	493	001
N	7500.	140441807334540 1	4044190733450	211MGTY	7	NG 928	1	0 3 920	458	000	405	458	001
N	7515.	140433707327110104043370732707		211MGTY	7	NL1033	3	0 0 630	352	000	289	347	002
N	7516.	140433707327110204043370732705		211MGTY	7	NL1033	3	0 0 630	589	000	495	584	58901
N	7523.	140431107330250 1	4043090733026	211MGTY	7	NJ1066	1	0 0 810	684	8046	589	684	002
N	7525.	140470307328010104047030732801		211MGTY	7	NK 789	3	0 02280	691	000	570	688	69401
N	7534.	240450407330110 5	4045050733011	211MGTY	7	NJ 973	3	0 01200	366	000	288	366	002
N	7535.	240451907329580 5	4045190732958	211MGTY	7	NJ 981	3	0 01220	357	000	281	357	005
N	7549.	140473607335320 1	4047360733531	211MGTY	7	NF 785	3	0 01930	50420234		449	499	001
N	7561.	140445507332490 2	4044550733246	211MGTY	7	NH 934	3	0 01170	55111890		463	550	003
N	7562.	140463907331110 3	4046340733111	211MGTY	7	NJ 813	3	0 01630	550	000	458	545	002
N	7593.	140453107341540 1	4050450732830	211MGTY	7	NK 553	3	0 02530	47325442		408	468	001
N	7635.	140459007330040 1	4045900733004	211MGTY	7	NJ 973	3	0 01200	394	000	314	394	002
N	7636.	140451707329430 1	4045170732949	211MGTY	7	NJ 991	3	0 01250	373	000	312	373	002
N	7637.	140451607329350 2	4045170732942	211MGTY	7	NJ 991	3	0 01260	490	000	429	490	003
N	7605.	140520407334540 1	4052030733500	112GLCLU7		NG 414	3	0 02180	37522249		320	370	001
N	7772.	140501207330550 1	4050120733102	211MGTY	7	NJ 527	3	0 02580	568	000	503	563	001
N	7773.	140501007330590 1	4050100733059	211MGTY	7	NJ 527	3	0 02300	56524540		500	560	001
N	7781.	140475107332200 1	4047510733220	211MGTY	7	NH 754	3	0 02170	459	000	394	454	001
N	7785.	140452607335340 1	4045260733534	211MGTY	7	NF 981	2	0 31080	404	000	330	400	001
N	7796.	140395007334120 1	4039490733417	211MGTY	7	NG1350	1	0 0 110	700	000	525	585	004
N	7796.	240394907334170 6	4039490733417	211MGTY	7	NG1350	1	0 0 110	590	000	525	585	006
N	7797.	140431007333150 2	4043080733321	211MGTY	7	NH1007	1	0 0 800	550	8514	485	545	001
N	7831.	140402307337130 1	4040220733713	211MGTY	78	NF1206	1	0 0 400	590	000	515	585	001
N	7852.	140441007326161204044100732616		211MGTY	7	NL 989	3	99 3 770	457	000	399	450	61505
N	7852.	240441107326180104044100732616		211MGTY	7	NL 989	3	99 3 770	457	000	400	450	007
N	7957.	140442007335320 1	4044200733531	211MGTY	7	NF 998	1	0 3 960	523	9889	433	519	001
N	8004.	140434307328430104043440732840		211MGTY	7	NK1052	3	0 0 870	745	9528	679	740	001
N	8007.	140454307335490 1	4045430733549	211MGTY	7	NF 879	2	0 31200	56412882		490	564	001
N	8031.	240404607330580 3	4040460733058	211MGTY	7	NJ1233	1	0 0 230	513	000	389	510	51303
N	8043.	140475707328330 1	4047540732831	211MGTY	7	NK 763	3	0 02220	68822216		515	688	001
N	8054.	140455707327050304045570732705		211MGTY	7	NL 837	3	0 01780	585	000	510	580	001
N	8124.	140459007329550 1	4044460733000	211MGTY	7	NJ 985	3	0 01160	543	000	483	543	001
N	8183.	140514607331340 1	4051460733134	112GLCLU7		NH 496	3	0 0 900	230	000	181	230	48702
N	8196.	240395207336160 7	4039520733616	211MGTY	7	NF1350	1	0 0 240	625	2813	560	620	007
N	8214.	240415607326200404041560732620		211MGTY	7	NL1175	3	0 0 370	686	4078	605	686	004
N	8216.	140400007337100 1	4040000733710	211MGTY	7	NF1209	1	0 0 340	665	000	600	660	001
N	8217.	240400407337100 4	4040040733710	211MGTY	7	NF1208	1	0 0 360	508	000	0	0	004
N	8249.	140463907331110 2	4046320733111	211MGTY	7	NJ 813	3	0 01630	495	000	400	490	001
N	8250.	340410007337160 5	4041080733716	211MGTY	7	NE1291	1	0 0 480	485	4906	420	480	005
N	8253.	140400207333330 1	4040030733334	211MGTY	7	NG1298	1	0 0 240	699	000	563	695	001
N	8279.	140430907330290 1	4043090733026	211MGTY	7	NJ1066	1	0 0 810	547	8053	389	547	003
N	8321.	140440107331510 3	4044000733147	211MGTY	7	NH1081	1	0 0 970	674	000	574	674	004
N	8326.	240511607337290 3	4051160733729	112GLCLU7		NE 580	3100	0 530	168	5438	120	165	003
N	8327.	240511307337260 7	4051130733726	112GLCLU7		NE 580	3100	0 530	168	5452	118	168	007
N	8415.	240422607329330 7	4042260732933	211MGTY	7	NK1101	1	0 0 580	625	000	609	625	007
N	579.	140492207329250 1	4049190732931	211MGTY	7	NK 603	3126	02380	600	000	560	600	61001
N	8457.	140445707336070 1	[illegible]	[illegible]	7								

9.3.9

S	74285.	140475007322530474047500732253	211MGTY 1	SJ 514	0 0 01546 11515407 107 112	004
S	74586.	140443307324490304044330732449	211MGTY 1	SL 316	4 99 0 860 441 8575 433 436	003
S	74587.	140443307324490404044330732449	211MGTY 1	SL 316	4 99 0 860 196 8576 188 193	004
S	75033.	140443307324490504044330732449	112GLCLU1	SL 316	4 99 0 865 62 8599 47 52	005
S	75034.	140443307324490104044330732449	211MGTY 1	SL 316	4 99 0 865 698 8624 688 693	84001
S	75034.	240443307324490204044330732449	211MGTY 1	SL 316	0 0 0 865 698 8624 688 693	002
S	75454.	1404659073194001 4048590731940	211MGTY 1	SJ 721	7133 02307 74023056 730 735	85501
S	75454.	2404659073194002 4046590731940	211MGTY 1	SJ 721	0 0 02307 74023056 730 735	002
S	75455.	1404659073194003 4046590731940	211MGTY 1	SJ 721	0 0 02302 50822988 500 505	003
S	75456.	1404659073194004 4046590731940	112GLCLU1	SJ 721	7133 02305 20322952 195 200	004
S	76016.	2404530073181102 4045300731811	211MGTY 1	SM 721	0 0 0 635 762 6317 752 757	002
S	76017.	1404530073181103 4045300731811	211MGTY 1	SM 721	0 0 0 632 503 6285 495 500	003
S	76018.	1404530073181104 4045300731811	211MGTY 1	SM 721	0 0 0 700 194 6276 186 191	004
S	76019.	1404530073181105 4045300731811	112GLCLU1	SM 721	0 0 0 700 62 6286 57 62	005
S	76673.	1404942073175501 4049420731755	211MGTY 1	SH 848	7169 01300 63312867 625 630	74201
S	76673.	2404942073175502 4049420731755	211MGTY 1	SH 843	0 0 01300 63312867 625 630	002
S	76674.	1404942073175503 4049420731755	211MGTY 1	SH 848	0 0 01300 46312908 455 460	003
S	76675.	1404942073175504 4049420731755	211MGTY 1	SH 848	0 0 01300 25312928 245 250	004
S	79407.	14039350732350030 4039370732350	211LLYD.1	SP 256	4158 3 781219 742119212141	24003
S	79408.	14039350732350040 4039370732350	211MGTY 1	SP 256	4158 3 78 680 722 670 675	70204
S5	1.	14043540732259010 4043540732259	112GLCLU1	SM 404B	4 0 0 599 30 000 0 0	001
S5	1.	24043540732259020 4043540732259	112GLCLU1	SM 404B	4 0 0 598 50 000 0 0	002
S5	1.	34043530732259030 4043530732259	112GLCLU1	SM 404B	4 0 0 580 69 000 0 0	001
S5	1.	44043540732259030 4043540732259	112GLCLU1	SM 404C	4 0 0 596 70 000 0 0	003
S5	4.	14043220732304010 4043220732304	112GLCLU1	SM 398A	4 0 0 531 24 000 0 0	001
S5	4.	2404322073230402 4043220732304	112GLCLU1	SM 398B	4 0 0 531 49 000 0 0	002
S5	4.	3404322073230403 4043220732304	112GLCLU1	SM 398C	4 0 0 532 90 000 0 0	003
S5	6.	1404326073223801 4043260732238	112GLCLU1	SM 418A	4 0 0 537 26 000 0 0	001
S5	6.	2404326073223802 4043260732238	112GLCLU1	SM 418B	4 0 0 539 46 000 0 0	002
S5	6.	3404326073223803 4043280732238	112GLCLU1	SM 418C	4 0 0 538 77 000 0 0	003
S5	12.	1404312073221501 4043120732215	112GLCLU1	SN 431A	4 0 0 398 25 000 0 0	001
S5	12.	2404312073221502 4043120732215	112GLCLU1	SN 431B	4 0 0 397 46 000 0 0	002
S5	12.	3404312073221503 4043120732215	112GLCLU1	SN 431C	4 0 0 398 70 000 0 0	003
S5	12.	4404312073221504 4043120732215	112GLCLU1	SN 431B	4 0 0 00 54 000 0 0	004
S5	12.	5404312073221505 4043120732215	112GLCLU1	SN 431C	4 0 0 400 84 000 0 0	005
S5	100.	1404350073231401 4043500732314	1	SM 394	4 0 0 00 205 000 0 0	001
S5	125.	1404354073225301 4043540732253	112GLCLU1	SM 414B	4 0 0 00 44 000 0 0	001
N	107.	1404732073352401 4047330733524	211MGTY 7	NF 796	3118 02110 49520259 455 495	001
N	108.	2403531073381902 4048190733531	7	NF 780	0 89 02450 298 000 275 298	002
N	131.	2403949073341705 4039490733417	211MGTY 7	NG1350	1 13 0 110 530 000 467 523	005
N	132.	1403952073342001 4039510733418	211MGTY 7	NG1350	1 13 0 200 515 000 466 507	001
N	133.	1403952073342002 4039530733420	211MGTY 7	NG1259	1 13 0 200 529 000 471 512	001
N	134.	1403951073341601 4039500733415	211MGTY 7	NG1360	1 13 0 200 528 000 467 517	001
N	148.	1404444073321001 4044410733207	211MGTY 7	NH 976	3104 01150 15811617 128 153	001
N	149.	14046270733112010 4046260733112	112GLCLU7	NJ 813	3104 01620 15316306 130 150	001
N	150.	14046270733112020 4046290733111	112GLCLU7	NJ 813	3104 01620 148 000 122 142	001
N	157.	1404831073345101 4048420733448	211MGTY 7	NG 628	3 0 02180 36021841 335 360	001
N	189.	24044490732648010 4044490732648	211MGTY 7	NL 955	3 92 31450 184 000 149 184	19002
N	192.	24044320732901020 4044320732901	211MGTY 7	NK 937	3 92 01045 176 000 112 173	17602
N	1402.	2403950073361401 4039500733614	112GLCLU7	NF1350	1 27 0 190 32 000 0 0	3201
N	198.	24049170732[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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N	5167.	24064041073543902	40404107335438	211MGTY	7	NG1234	1	0	0	370	501	000	445	495	002
N	5259.	24064120733225G1	40411907332227	211MGTY	7	NH1159	1	0	0	390	317	000	241	312	002
N	5302.	14064240733143G1	40424607331436	211MGTY	7	NJ1009	1	25	3	660	489	000	431	484	001
N	5305.	14064320732935J1	40452407329 44	211MGTY	7	NJ 991	3	0	01290		167	000	115	167	001
N	5319.	14041550733450G1	40415407334 53	211MGTY	7	NG1125	1	0	0	580	315	000	260	310	001
N	5320.	14041550733448G1	40415507334 47	211MGTY	7	NG1135	1	0	0	600	384	000	319	379	001
N	5321.	14042430733202G1	40424207331 57	211MGTY	7	NH1180	1	0	0	710	514	7048	449	509	001
N	5322.	14042430733157G2	40424307332 02	211MGTY	7	NH1170	1	0	0	700	515	000	470	510	001
N	5356.	24044410733209G1	40444107332 07	211MGTY	7	NH 976	3	0	01140		528	000	472	523	003
N	5404.	34044190733643G4	40442007336 44	211MGTY	7	NF 928	1	0	3	900	575	9130	500	572	004
N	5405.	34044230733655G3	40442307336 55	211MGTY	7	NF 918	1	0	3	920	557	9449	473	553	003
N	5596.	14044530733725G1	40445407337 26	211MGTY	7	NE 984	2	0	21060		46810652	403	463		001
N	5654.	14044510733526G1	40445107335 26	211MGTY	7	NF 995	2	0	3	980	340	9959	275	335	001
N	5695.	14039220733543G1	40392207335 43	211MGTY	7	NF1383	1	0	0	240	529	2533	466	526	001
N	5696.	24039460733415G1	40394607334 15	211MGTY	7	NG1360	1	0	0	200	523	000	468	518	002
N	5703.	14041540732619G3	40415607326 20	211MGTY	7	NL1175	3	0	0	370	459	000	384	459	001
N	5707.	14040540732949G1	40405407329 48	211MGTY	7	NJ1292	1	0	0	260	384	000	305	384	001
N	5803.	14040320732900G3	40403207328 00	211MGTY	7	NK1295	3	0	0	90	143	000	0	0	003
N	5824.	14040320732802G3	40403207328 00	211MGTY	7	NK1295	3	0	0	90	127	000	0	0	025
N	5994.	14052110733719G1	40521107337 18	211MGTY	7	NE 493	3	0	01300		226	000	173	226	001
N	6045.	24044320733656G2	40443207336 56	211MGTY	7	NF 917	1	0	3	970	328	8721	277	328	002
N	6046.	24044190733545G1	40441607335 48	211MGTY	7	NF 979	1	0	31010		175	9060	145	175	002
N	6076.	24046500732911G2	40465007329 11	211MGTY	7	NK 821	3	0	01580		358	000	296	358	002
N	6077.	24046510732913G1	40464907329 10	211MGTY	7	NK 821	3	0	01580		465	000	398	460	002
N	6078.	14045370732848G1	40453507328 48	211MGTY	7	NK 849	3	0	01230		28012970	225	275		001
N	6092.	14049060732751G1	40491207327 51	211MGTY	7	NK 894	3	0	02410		637	000	561	631	001
N	6093.	14049060732751G2	40490607327 51	211MGTY	7	NK 894	3	0	02590		612	000	546	606	001
N	6149.	24042160732733G1	40421607327 33	211MGTY	7	NL1112	3	0	0	510	566	000	462	561	002
N	6149.	24042150732622G3	40421507326 22	211MGTY	7	NL1173	3	0	0	420	640	000	585	640	003
N	6150.	24042460732903G1	40424507329 03	211MGTY	7	NK1039	3	0	0	610	612	000	545	607	002
N	6191.	24047060733049G1	40470707330 49	211MGTY	7	NJ 739	3	0	01760		555	000	489	550	002
N	6315.	14045260733626G2	40452607336 26	211MGTY	7	NF 941	2	0	31070		35310436	298	348		001
N	6442.	14041230732852G3	40412307328 52	211MGTY	7	NK1149	3	0	0	310	612	000	524	612	002
N	6443.	14041230732852G2	40412307328 52	211MGTY	7	NK1149	3	0	0	310	268	000	190	268	003
N	6507.	24046300732938G1	40463007329 38	211MGTY	7	NK 803	3	0	01580		60116003	523	596		002
N	6644.	14044090732713G1	40440607327 13	211MGTY	7	NL 939	3	0	31010		227	000	175	222	23801
N	6805.	14040410732835G1	40403907328 35	211MGTY	7	NK1264	3	0	0	260	626	2739	566	626	001
N	6807.	14040430732835G1	40403907328 35	211MGTY	7	NK1264	3	0	0	260	492	2748	414	492	002
N	6893.	14040460733545G1	40404907335 44	211MGTY	7	NF1283	1	0	0	420	565	000	500	560	005
N	6915.	14044090732832G1	40440107328 31	211MGTY	7	NK1060	3	0	0	950	516	9445	558	606	001
N	6916.	24043580732831G2	40435607328 31	211MGTY	7	NK1061	3	0	0	950	613	9433	561	611	002
N	6956.	14045570732705G1	40456007327 05	211MGTY	7	NL 837	3	0	01780		602	000	514	597	002
N	7050.	14040350733311G1	40403507333 11	211MGTY	7	NH 812	3	0	01580		53116280	480	530		001
N	7076.	14043390733040G1	40433907330 40	211MGTY	7	NJ1043	1	0	0	910	674	9239	569	674	002
N	7293.	14043050733714G1	40430507337 14	211MGTY	7	NE1097	1	0	0	610	587	000	394	444	002
N	7299.	24043050733714G3	40430507337 14	211MGTY	7	NE1097	1	0	2	610	444	000	394	444	003
N	7377.	14043120732748G1	40431307327 50	211MGTY	7	NK1096	3	0	0	670	758	000	608	758	001
N	7407.	14040020733333G3	40400207333 32	211MGTY	7	NG1298	1	0	0	240	0	2394	378	530	003
N	7407.	24040020733333G3	40400207333 32	211MGTY	7	NG1298	1	0	0	240	648	2394	480	645	013
N	7414.	14040560732611G1	40405407326 13	211MGTY	7	NL1282	3	0	0	220	537	000	472	530	001

9.5.9

N	198.	2404917073292902	4049170732929	211MGTY	7	NK 603	3126	02370	616	000	566	616	002				
N	199.	1404920073295101	4049220732924	211MGTY	7	NK 613	3126	02330	61123351	544	599	001					
N	1605.	1404454073295401	4044550732955	211MGTY	7	NJ 984	3	0	01200	109	000	68	101	001			
N	1606.	1404441073295201	4045000732956	211MGTY	7	NJ 983	3	0	01220	108	000	81	108	001			
N	1798.	1404516073295304	4045180732953	211MGTY	7	NJ 981	3	0	01250	105	000	80	105	004			
N	1959.	2404516073293501	4045170732942	211MGTY	7	NJ 991	3	0	01260	175	000	135	165	002			
N	1963.	1404441073295001	4044420732953	211MGTY	7	NJ 986	3	0	01140	359	000	293	348	001			
N	1937.	1404409073271101	4044090732711	211MGTY	7	NL 939	3	99	31060	150	000	121	146	001			
N	2072.	1404634073311101	4046340733111	112GLCLU7		NJ 813	3	0	01620	159	000	138	159	001			
N	2316.	1405107073372501	4051070733723	112GLCLU7		NE 581	3	0	01570	170	000	0	170	001			
N	2528.	2405101073343401	4050010733432	211MGTY	7	NG 538	3	0	0	930	328	9386	278	282	002		
N	2580.	2404323073314504	4043230733145	211MGTY	7	NH1095	1	0	0	750	357	000	321	357	004		
N	2603.	1404056073260502	4040560732605	112GLCLU7		NL1292	3	0	0	240	71	000	34	66	001		
N	2747.	2404446073365001	4044460733650	211MGTY	7	NF 925	2	52	3	920	333	9297	278	328	002		
N	2748.	3404445073365101	4044450733651	211MGTY	7	NF 915	2	52	3	940	515	9306	460	510	003		
N	3456.	4404302073332504	4043020733325	211MGTY	7	NH1007	1	0	0	770	560	000	494	555	004		
N	3457.	1404310073331601	4043080733320	211MGTY	7	NH1007	1	0	0	800	325	000	280	320	001		
N	3463.	1404132073311701	4041320733114	211MGTY	7	NJ1118	1	0	0	300	303	000	247	299	30301		
N	3465.	4404305073335104	4043050733331	211MGTY	7	NG1097	1	0	0	770	585	000	519	580	004		
N	3466.	1405115073372501	4051130733727	112GLCLU7		NE 580	3100	0	530	177	4940	148	173	002			
N	3468.	2404445073310101	4044450733104	211MGTY	7	NJ 925	3	0	01170	169	000	116	169	002			
N	3552.	2404453073320401	4044540733203	211MGTY	7	NH 974	3	0	01190	169	000	116	169	002			
N	3553.	2404455073324901	4044530733246	211MGTY	7	NH 934	3	0	01170	152	000	99	152	002			
N	3613.	1404340073314701	4043360733046	211MGTY	7	NJ1043	1	0	0	890	420	7850	377	418	004		
N	3709.	2404226073295501	4042260732935	112GLCLU7		NK1101	1	0	0	580	142	000	89	142	002		
N	3876.	1404353073291201	4043520732911	211MGTY	7	NK1021	3	0	0	910	386	000	328	386	001		
N	3893.	1404228073293401	4042280732933	211MGTY	7	NK1101	1	0	0	580	150	000	98	151	005		
N	3895.	2404119073323001	4041190733231	211MGTY	7	NH1159	1	0	0	410	349	000	312	349	50302		
N	3934.	1404403073370901	4044020733708	211MGTY	7	NF1001	1	14	2	860	422	8834	377	417	001		
N	3935.	1404401073370501	4044000733705	211MGTY	7	NF1001	1	14	2	840	415	8625	370	410	001		
N	4042.	1404309073274501	4043090732745	112GLCLU7		NL1006	3	0	0	520	154	000	96	154	001		
N	4063.	2404533073284901	4045320732849	211MGTY	7	NK 940	3	0	01240	233	000	145	233	004			
N	4097.	1404631073293901	4046310732939	211MGTY	7	NK 803	3	0	01580	470	000	413	463	001			
N	4153.	1404809073303901	4048090733034	211MGTY	7	NJ 751	3	0	01920	445	000	400	450	001			
N	4144.	2404533073284901	4045330732848	211MGTY	7	NK 940	3	0	01240	235	000	153	235	004			
N	440.	1404011073310556	4040110733105		7	NJ1227	1	46	0	90	80	000	0	0	8036		
N	4206.	1404524073363201	4045240733632	211MGTY	7	NF 931	2	0	01060	36010869	305	355	001				
N	4246.	1404802073313201	4048020733128	211MGTY	7	NJ 702	3	0	02000	458	000	403	453	001			
N	4265.	1404755073372401	4047550733724	211MGTY	7	NE 783	2	0	02150	49019961	435	485	001				
N	4400.	2405221073300701	4051540732958	211MGTY	7	NJ 485	3	0	0	360	302	3590	214	302	002		
N	4425.	1404301073371401	4042590733715	211MGTY	7	NE1098	1	0	2	580	365	000	325	365	001		
N	4443.	1404306073332901	4043070733328	211MGTY	7	NG1097	1	0	0	790	555	8514	500	550	001		
N	4450.	1404323073314601	4043230733136	211MGTY	7	NH1095	1	0	0	810	472	000	415	466	001		
N	4451.	3404429073305501	4044290733055	211MGTY	7	NJ 937	1	0	01100	40810923	353	403	005				
N	4503.	1404154073261902	4041540732620	211MGTY	7	NL1175	3	0	0	370	184	000	113	184	002		
N	4702.	1404524073295601	4045180733018	211MGTY	7	NJ 961	3	0	01220	169	000	149	169	001			
N	4756.	2404207073345501	4042060733452	211MGTY	7	NG1124	1	0	0	610	312	000	245	307	002		
N	4757.	2404209073345501	4042100733454	211MGTY	7	NG1124	1	0	0	590	324	000	257	319	002		
N	4758.	2404209073345001	4042090733448	211MGTY	7	NG1124	1	0	0	550	446	000	363	441	002		
N	4759.	2404206073344902	4042050733447	211MGTY	7	NG1134	1	0	0	560	360	000	283	355	003		

6.6.9

S	57551.	14051410731910 01	4051380731905	211MGTY 7		SG 821	7149 01710 60916576 515 605 66301
S	37651.	14042360732850 10	4042320732256	211MGTY 7		SN 375	4165 0 420 583 3638 0 574 58301
	36192.	14045260731504 02X	4045310731501	211MGTY 7		SM 906	8189 0 659 306 000 0 0 60502
	36705.	14051350732355 01	4051350732400	211MGTY 7		SF 532	7146 51050 66620157 572 663 70201
	39024.	14043560731918 01X	4043570731815	211MGTY 7		SN 633	8198 0 450 623 000 0 623 65501
S	39709.	14044560732522 01	4044560732522	211MGTY 7		SL 292	4 0 3 850 712 000 650 705 72301
S	40330.	14043210732226 01	4043240732222	211MGTY 7		SM 439	4166 0 430 328 000 262 328 33701
S	40497.	14046060731746 02X	4046040731752	211MGTY 7		SL 757	4 0 0 740 283 7429 220 280 70802
S	41353.	14036170731633 01	4038170731633	211MGTY 7	B	SS 640	0 0 0 100 290 000 0 0 001
S	42225.	14050150732342 01	4050150732343	211MGTY 7		SG 513	7 0 01100 79018000 690 785 79001
S	42762.	14043050731614 01X	4043050731615	211MGTY 7		SO 783	8187 0 260 714 2102 650 710 73901
S	43001.	14051130732609 01	4051140732609	112GLCLU7		SF 401	7146 02300 53323000 446 526 59701
S	45638.	14048040732044 01	4048040732044	211MGTY 7		SJ 636	7133 01636 72516434 658 720 75001
S	45639.	14046050732037 01	4048040732047	211MGTY 7		SJ 636	7133 01545 74515600 660 735 74801
S	45349.	14042180731904 00	4042180731904	211MGTY 7		SO 594	0 0 0 00 315 000 251 311 38401
S	45955.	14046510731851 01	4048510731851	112GLCLU7		SJ 763	4159 02850 60528500 539 599 66001
	46255.	14044360731513 00X	4044320731513	211MGTY 7		SN 374	8187 0 390 713 3740 649 710 002
S	46959.	14046060731746 01X	4046060731746	211MGTY 7		SL 767	0 0 0 760 655 6775 550 651 66301
S	47906.	14042040732420 01	4042040732420	211MGTY 7		SN 286	0 0 0 430 509 3669 428 505 52301
S	47907.	14044640732521 02	4044470732521	211MGTY 7		SO 194	0 0 0 260 648 1732 554 645 65702
S	40193.	14045150732255 02	4045190732245	211MGTY 7		SL 453	0 0 0 900 534 7311 470 530 53402
S	49542.	14042060732458 01	4042060732458	211MGTY 7		SN 254T	0 0 0 450 560 000 540 560 001
S	49542.	24042060732458 02	4042060732458	045.00 7		T	0 0 0 450 0 000 0 0 002
S	50546.	14044320731513 03X	4044320731513	211MGTY 7		SN 874	0 0 0 390 668 3645 604 665 003
S	51214.	14042100732502 01	4042100732502	211MGTY 7		SN 244	0 0 0 450 395 000 330 390 39501
S	51457.	14043210732226 02	4043230732222	211MGTY 7		SM 439	4157 0 00 623 3241 0 623 002
S	51673.	14042250731930 01	4042250731930	211MGTY 7		SO 572	0 0 0 00 763 2227 669 760 77201
S	40499.	14042300732041 01X	4042320732041	211MGTY 7		SN 519	4 0 0 240 746 2366 671 743 78001
S	55360.	14050320731629 02	4050340731618	211MGTY 7		SH 954	0 0 01410 70313790 551 667 002
S	55361.	14051350731559 01	4051430731556	211MGTY 7		SG1006	0169 01480 52114307 437 517 001
S	55747.	14051400731910 01	4051360731902	211MGTY 7		SG 821	0 0 01710 453 000 370 448 001
S	54503.	14042100732502 02	4042100732502	211MGTY 7		SN 244	0 0 0 450 423 000 338 421 002
S	54751.	14036220731550 01	4036220731550	211MGTY 7	B	SS 691	8 0 0 80 750 000 699 750 001
N	9520.	14051440733135 01	4051440733135	112PGWF 7		NH 496	3 0 0 900 517 000 451 512 55601
S	55754.	14043260731741 02X	4043260731741	211MGTY 7		SN 708	0 0 0 00 0 000 0 0 002
	57754.	14051260732733 03	4051260732737	112GLCLU7		SE 326	7 0 0 500 257 000 213 254 27303
S	56703.	14049360731527 01	4049360731525	211MGTY 7		SJ 984	0 0 01320 42312470 329 389 001
	59347.	14044190731716 01X	4044190731716	211MGTY 7		SN 752	0 0 0 510 463 000 388 458 51501
S	65906.	14050530731509 01	4050530731509	211MGTY 7		SH1034	11169 0 790 653 6903 560 650 001
S	65505.	14043520732158 01X	4043520732158	211MGTY 7		SM 466	4167 0 540 650 000 575 645 001
N	63.	24039210733532 01	4039220733532	211MGTY 7		NF1393	1 13 0 200 510 000 450 500 002
S	66306.	14051560732548 01	4051560732548	112GLCLU7		SE 446	7146 01700 479 000 400 460 001
S	66429.	14043260731741 03X	4043260731741	211MGTY 7		SN 708	8209 0 00 718 2983 0 718 003
S	66556.	14043080732431 01	4043080732431	211MGTY 7		SM 307	4 0 3 500 728 000 647 707 75301
S	67084.	14038250731823 01	4038250731823	211MGTY 7	9	SR 546	4 0 0 90 205 000 167 172 001
S	71063.	14045260731507 01X	4045280731507	211MGTY 7		SM 907	8187 0 619 798 5643 0 798 001
N	73.	14042590733719 01	4042590733716	211MGTY 7		NE1098	1 16 0 590 135 000 82 131 001
N	73.	24042590733716 09	4042590733716	211MGTY 7		NE1098	1 16 0 590 381 000 336 375 009
N	79.	24042560733709 01	4042520733714	211MGTY 7		NE1099	1 16 2 619 430 000 338 428 002
N	80.	14042560733715 01	4042560733712	211MGTY 7		NF1098	1 16 2 550 483 5794 423 475 001
	[illegible]	[illegible]	4042[illegible]0733709	211MGTY 7		[illegible]	[illegible]

22369.	1404357073181502	4043570731814	211MGTY 7		SN 683	8209 0 449 466 000 0 465 50302
22471.	1404922073162901	4049220731629	211MGTY 7		SJ 914	7169 01650 383 000 312 381 60201
22543.	1404706073190701	4047060731902	211MGTY 7		SK 716	7159 01140 41511668 347 403 54101
23145.	1405226073231701	4052250732317	112GLCLU7		SE 597	7141 01950 600 000 520 600 60501
23445.	1404659073164101	4046590731642	211MGTY 7		SL 842	8189 01100 61011356 541 605 61001
23522.	1404606073191301	4048060731913	112GLCLU7		SJ 728	7133 01450 424 000 358 420 42401
23523.	1404750073215001	4047500732150	112GLCLU7		SJ 576	7133 01900 445 000 327 440 45801
23715.	1404955073170402	4049550731704	112GLCLU7		SH 898	11169 01550 340 000 238 310 34002
23932.	1404922073162701	4049220731628	211MGTY 7		SJ 914	7169 01650 40517000 318 402 40901
23343.	1404430073211301	4044300732113	211MGTY 7		SM 523	4167 0 500 634 5234 558 631 66901
23997.	1405050073214501	4050440732147	211MGTY 7		SG 643	7141 02000 62519250 540 621 70501
23393.	1405140073222101	4051400732221	211MGTY 7		SF 635	7141 02200 60122670 525 597 66601
24346.	1404639073151401	4046390731514	211MGTY 7		SL 927	8189 0 900 597 000 461 517 59701
23674.	1404431073211401	4044310732115	211MGTY 7		SM 523	4167 0 500 625 5330 550 625 65401
26071.	2404720073261002	4047200732610	211MGTY 7		SJ 301	7 0 02600 334 000 293 334 33402
26247.	1405059073233701	4050590732337	211MGTY 7		SF 548	7146 01780 447 000 264 447 50101
26248.	14046007073253001	4046070732530	7		SK 312	7 0 51000 552 000 512 552 54701
26535.	1404318073153801	4043380731540	211MGTY 7		SO 620	8187 0 260 776 2925 710 773 78201
27072.	1405134073235602	4051340732358	112GLCLU7		SF 532	7151 02090 560 000 494 557 61202
28534.	1404047073252301	4040470732521	112GLCLU7		SO 194	4156 3 250 79 000 53 78 8501
28535.	1404047073252104	4040470732521	7		SO 194	4156 3 250 78 000 0 0 7804
29491.	1404120073221601	4041210732246	211MGTY 7		SO 364	4161 0 250 499 2451 390 493 65201
29352.	1405042073195501	4050420731957	211MGTY 7		SG 747	7139 01900 607 000 530 601 69001
29952.	1404632073220702	4046320732207	112GLCLU7		SH 579	7133 02080 675 000 485 546 67702
30007.	1404607073253002	4046070732530	211MGTY 7		SK 312	7148 01010 595 000 510 590 002
30008.	1405056073233801	4050560732338	211MGTY 7		SF 548	7146 01850 488 000 423 483 48501
30506.	1404515073225501	4045200732244	211MGTY 7		SL 453	4167 0 750 614 7746 546 618 63001
31038.	1404155073212205	4041560732125	211MGTY 7		SO 452	4166 0 190 528 000 424 525 55505
31104.	1404705073164401	4047000731641	211MGTY 7		SL 842	8189 01100 65810547 592 655 66501
32417.	1404736073153201	4047360731532	- 7		SK 929	8189 01100 900 000 0 0 90001
32501.	1404046073252101	4040470732521	211MGTY 7		SO 194	4156 3 260 632 1967 560 630 66301
33206.	1405132073155901	4051430731554	211MGTY 7		SG1006	11169 01470 50414194 436 503 51201
33621.	1403826073173201	4038260731732	7	B	SR 597	4 0 0 110 306 000 295 305 30601
34221.	1404735073231301	4047050732313	211MGTY 7		SJ 479	7133 02600 710 000 615 705 71001
34059.	1404536073210801	4045360732108	211MGTY 7		SL 554	4167 0 540 538 5845 0 538 56301
34051.	1404534073210801	4045340732109	211MGTY 7		SL 555	4167 0 541 521 000 0 521 56301
34252.	1404806073191201	4048060731912	112GLCLU7		SJ 738	7133 01500 441 000 369 436 44101
34003.	1404635073214001	4046350732140	211MGTY 7		SK 556	7148 02000 736 000 656 736 74201
34054.	1404635073214002	4046350732140	211MGTY 7		SK 556	7148 02000 632 000 0 0 66402
34575.	1404203073242202	4042040732422	211MGTY 7		SN 286	4156 0 436 482 3765 412 482 51302
34751.	1401703040382001	4036200731735	7		SR 588	4157 0 00 310 000 300 310 31002
35007.	1404916073253201	4049160732532	211MGTY 7		SG 397	7144 02320 66023250 575 660 70101
35959.	1405140073190301	4051390731904	211MGTY 7		SG 821	7149 01710 53317541 468 530 62201
35714.	1404456073182502	4044560731924	211MGTY 7		SM 704	4159 0 630 308 000 244 304 35402
36743.	1404219073190401	4042190731904	211MGTY 7		SO 594	4157 0 140 336 1400 272 336 38301
36791.	1405014073161401	4050470731615	211MGTY 7		SH 963	7169 01400 67413752 534 670 68001
36976.	1404925073162901	4049230731628	211MGTY 7		SJ 913	0169 01600 418 000 331 418 45801
37109.	1405116073205701	4051160732057	7		SG 700	7141 0 00 688 000 542 688 68801
37351.	1405141073191001	4051360731905	211MGTY 7		SG 821	7149 01710 60916576 515 605 66301
37651.	1404236073225701	4042320732256	211MGTY 7		SN 375	4165 0 420 583 3638 0 574 58301

Well I.D. #	Latitude / Longitude coord.	Aquifer Screened (GLCLU - Upper Glacial, MGTY - Magothy)	Well Use *											
S [illegible]	4041260732437		1	SO	250	0	0	0	00	15	2659	10	15	001
S 64317.	4049000732428	112GLCLU	1	SH	441	0	0	01496		8314957		78	83	001
S 64313.	4047370732516	112GLCLU	1	SJ	361	0	0	0	00	60	000	55	60	001
S 6431[illegible].	4046230732539		1	SK	310	0	0	0	00	45	000	40	45	001
S 643[illegible].	4045450732545		1	SK	294	4	0	3	00	27	9773	25	27	001
S 64503.	4045380732110		1	SL	554	0	0	0	00	13	5712	11	13	001
S 64504.	4040480732244		1	SO	349	0	0	0	00	10	1376	8	10	001
S 64505.	4040500732254		1	SO	348	0	0	0	00	10	1649	8	10	001
S 64506.	4040390732326		1	SO	309	0	0	0	00	10	1589	8	10.	001
S 64507.	4040350732336		1	SO	299	0	0	0	00	15	2030	13	15	001
S 6450[illegible].	4040290732423		1	SO	248	0	0	0	00	8	1120	6	8	001
S 6450[illegible].	4040260732427		1	SO	246	0	0	0	00	15	1316	13	15	001
S 64570.	4040100732448		1	SP	210	0	0	0	00	6	408	4	6	001
S 64571.	4040170732443		1	SO	229	0	0	0	00	13	1683	11	13	001
S 64572.	4040320732449		1	SO	227	0	0	0	00	10	1209	8	10	001
S 64573.	4040440732445		1	SO	230	0	0	0	00	9	1651	6	9	001
S 64574.	4040450732454		1	SO	225	0	0	0	00	15	2008	13	15	001

9.9.9

*Well Use: #1 = Observation well
#7 = Public-Supply well


10.1.1
Old Bethpage
Old Bethpage Sch
Lower Melville
Sweet Hollow Sch
DURYEA ROAD
Sandpit
Incinerator
Substation
St Rose Industrial Sch
STATE UNIVERSITY AGRICULTURAL AND TECHNICAL INST
Sewage Disposal
Water Tank
Golf Course
BETHPAGE STATE PARK
PINELAWN CEMETERY
LONG ISLAND NATIONAL CEM
STATE PARK
COURSES
REEVES AVE
SUFFOLK CO
NASSAU CO
FARMINGDALE
St Kilians Sch
Village Hall
Howitt Jr High Sch
Main St Sch
Michel Park
East Farmingdale Mem Sch
REPUBLIC AIRPORT
Polytechnic Institute of Brooklyn at Farmingdale
Sewage Disposal Ponds
ST CHARLES CEMETERY
PINELAWN
Maywood
INTERCHANGE
South Farmingdale
Fire Sta
Mill Lane Jr High Sch
LONG ISLAND
PARKWAY

5.5 EPA Form 2070-12

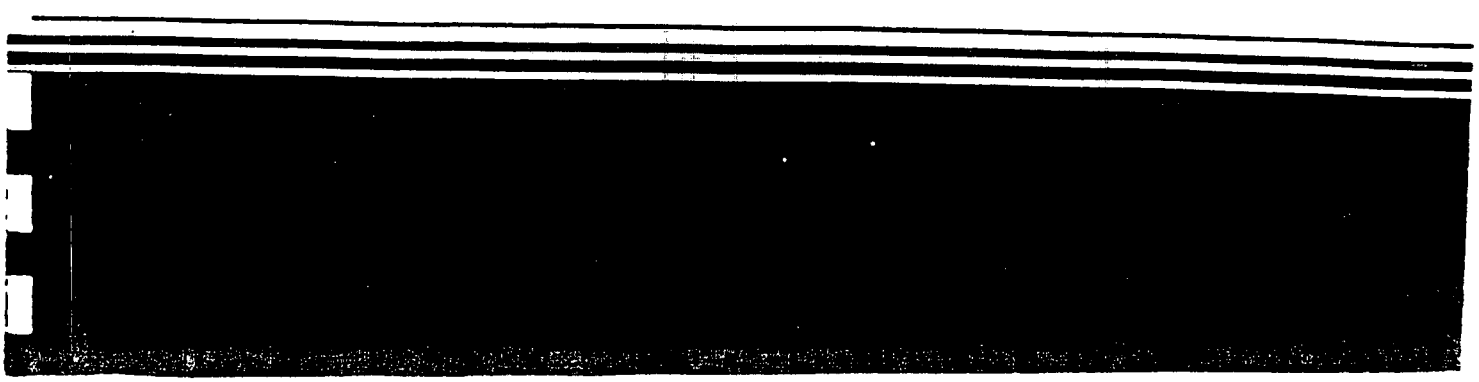
Environmental Protection Agency
Remedial Response
Washington DC 20460
July 1985

Hazardous Waste Disposal

EPA

Potential Hazardous Waste Site

Preliminary Assessment



EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Hazardous Waste Disposal	11A Picone Blvd.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST.
Farmingdale	NY	11735	Suffolk		

09 COORDINATES LATITUDE	LONGITUDE
40 44' 43"	73°25'13"

10 DIRECTIONS TO SITE (Starting from nearest public road)
From L.I.E. take Rt. 110 south, Take left on Picone Blvd.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Little Joseph Realty, Inc.	1637 Broad Hollow Rd.

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Farmingdale	NY	11735	(516)249-3400

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Mr. George Lawrence	1 Shore Rd.

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Glenwood Landing	NY	11747	(516) 273-3150

13 TYPE OF OWNERSHIP (Check one)
☒ A PRIVATE ☐ B FEDERAL _____ (Agency name) ☐ C STATE ☐ D COUNTY ☐ E MUNICIPAL
☐ F OTHER _____ (Specify) ☐ G UNKNOWN

14 OWNER-OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A RCRA 3001 DATE RECEIVED _____ (MONTH DAY YEAR) ☐ B UNCONTROLLED WASTE SITE (CERCLA 103c) DATE RECEIVED _____ (MONTH DAY YEAR) ☐ C NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 6/25/87 (MONTH DAY YEAR)
☐ NO

BY (Check all that apply)
☐ A EPA ☐ B EPA CONTRACTOR ☐ C STATE ☒ D OTHER CONTRACTOR
☐ E LOCAL HEALTH OFFICIAL ☐ F OTHER _____ (Specify)

CONTRACTOR NAME(S): Roux Associates, Inc.

02 SITE STATUS (Check one)	03 YEARS OF OPERATION	
☐ A ACTIVE ☒ B INACTIVE ☐ C UNKNOWN	1979 (BEGINNING YEAR)	1982 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Chlorinated and non-chlorinated hydrocarbons, waste resin, paint sludge.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
If wastes have been released into soil then a potential threat to ground water exists.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A HIGH (Inspection required promptly) ☐ B MEDIUM (Inspection required) ☐ C LOW (Inspection on time available basis) ☐ D NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
J. Patrick Brynes Joanne Yeary	Roux Associates, Inc.	516'673-7200

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
J. Patrick Brynes			516'673-7200	6/25/87 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A SOLID — E SLURRY
B POWDER, FINES — X LIQUID
X SLUDGE — X GAS
D OTHER (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS: unknown
CUBIC YARDS: unknown
NO. OF DRUMS: ± 1900

03 WASTE CHARACTERISTICS (Check all that apply)

X TOXIC — E SOLUBLE — X HIGHLY VOLATILE
X CORROSIVE — F INFECTIOUS — X EXPLOSIVE
C RADIOACTIVE — X FLAMMABLE — X REACTIVE
X PERSISTENT — X IGNITABLE — X INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	Unknown		
OLW	OILY WASTE	Unknown		
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown		
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	Unknown		
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See appendix for most frequently cited CAS numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Unknown				

V. FEEDSTOCKS (See appendix for CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYSDEC Site Files
SCDHS Site Files

5.6 EPA Form 2070-13

United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington DC 20460

EPA Form 2070-13
July 1981

Hazardous Waste Disposal

EPA

Potential Hazardous Waste Site

Site Inspection Report

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II SITE NAME AND LOCATION

01 SITE NAME	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER
Hazardous Waste Disposal	11A Picone Blvd.

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG. DIST.
Farmingdale	NY	11735	Suffolk		

09 COORDINATES: LATITUDE 40°44'43" | LONGITUDE 73°25'13"

10 TYPE OF OWNERSHIP: [X] A PRIVATE [ ] B FEDERAL _____ [ ] C STATE [ ] D COUNTY [ ] E MUNICIPAL [ ] F OTHER _____ [ ] G UNKNOWN

III INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
6/25/87 (MONTH DAY YEAR)	[ ] ACTIVE [X] INACTIVE	1979 (BEGINNING YEAR) 1982 (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION: [ ] A EPA [ ] B EPA CONTRACTOR _____ [ ] C MUNICIPAL [ ] D MUNICIPAL CONTRACTOR _____ [ ] E STATE [X] F STATE CONTRACTOR Roux Associates [ ] G OTHER _____

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
J. Patrick Byrnes	Geologist	Roux Associates	(516) 673-7200
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Joanne Yeary	Geologist	Roux Associates	(516) 673-7200
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Mr. V. Emanuelo	Attorney	Farmingdale, NY	516 249-3400
Mr. Ed Lynch	Property Manager	Farmingdale, NY	516 249-3400
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
[X] PERMISSION [ ] WARRANT	9:50 am	Clear, sunny, breezy - 75°F

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (AGENCY/ORGANIZATION)	03 TELEPHONE NO.
J. Byrnes, J. Yeary	Roux Associates	( ) 516 673-7200

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
J. Patrick Byrnes				6/25/87 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	152113

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A SOLID
- ☐ B POWDER, FINES
- ☐ C SLUDGE
- ☐ E SLURRY
- ☐ F LIQUID
- ☐ G GAS
- ☒ H OTHER None

02 WASTE QUANTITY AT SITE

(Measures of waste quantities must be independent)

TONS _____

CUBIC YARDS _____

NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- ☐ A TOXIC
- ☐ B CORROSIVE
- ☐ C RADIOACTIVE
- ☐ D PERSISTENT
- ☐ E SOLUBLE
- ☐ F INFECTIOUS
- ☐ G FLAMMABLE
- ☐ H IGNITABLE
- ☐ I HIGHLY VOLATILE
- ☐ J EXPLOSIVE
- ☐ K REACTIVE
- ☐ L INCOMPATIBLE
- ☐ M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Roux Site Inspection June 25, 1987
No wastes were observed during site visit.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE _____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] B SURFACE WATER CONTAMINATION — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] C CONTAMINATION OF AIR — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] D FIRE/EXPLOSIVE CONDITIONS — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] E DIRECT CONTACT — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] F CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED _____ (Acres) — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] G DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] H WORKER EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

01 [ ] I POPULATION EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE _____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ — 04 NARRATIVE DESCRIPTION

N/A

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	152113

II. HAZARDOUS CONDITIONS AND INCIDENTS

J. ☐ DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

K. ☐ DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

L. ☐ CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

M. ☐ UNSTABLE CONTAINMENT OF WASTES — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

N/A

N. ☐ DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

O. ☐ CONTAMINATION OF SEWERS STORM DRAINS WWTPs — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

P. ☐ ILLEGAL UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

N/A

05 DESCRIPTION OF ANY OTHER KNOWN POTENTIAL OR ALLEGED HAZARDS

06 TOTAL POPULATION POTENTIALLY AFFECTED _____

07 COMMENTS

No wastes observed on site

08 SOURCES OF INFORMATION

Roux Site Inspection June 25, 1987

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	152113

II PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A NPDES				
☐ B UIC				
☐ C AIR				
☐ D RCRA				
☐ E RCRA INTERIM STATUS				
☐ F SPCC PLAN				
☐ G STATE (Specify)				
☐ H LOCAL (Specify)				
☐ I OTHER (Specify)				
☐ J NONE				

III SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A SURFACE IMPOUNDMENT		
☐ B PILES		
☐ C DRUMS, ABOVE GROUND		
☐ D TANK, ABOVE GROUND		
☐ E TANK, BELOW GROUND		
☐ F LANDFILL		
☐ G LANDFARM		
☐ H OPEN DUMP		
☐ I OTHER _____ (Specify)		

04 TREATMENT (Check all that apply)
☐ A INCINERATION
☐ B UNDERGROUND INJECTION
☐ C CHEMICAL/PHYSICAL
☐ D BIOLOGICAL
☐ E WASTE OIL PROCESSING
☐ F SOLVENT RECOVERY
☐ G OTHER RECYCLING/RECOVERY
☐ H OTHER _____ (Specify)

05 OTHER
☐ A BUILDINGS ON SITE

06 AREA OF SITE
_____ (Acres)

07 COMMENTS

No wastes presently at site

IV CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A ADEQUATE, SECURE ☐ B MODERATE ☐ C INADEQUATE, POOR ☐ D INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☐ NO

02 COMMENTS

VI SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Roux Site Inspection June 25, 1987

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 152113

II DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A ☐	B X
NON-COMMUNITY	C ☐	D ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A ☐	B ☐	C ☐
D ☐	E ☐	F ☐

03 DISTANCE TO SITE
A ________ (mi)
B ________ (mi)

III GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

X A ONLY SOURCE FOR DRINKING
☐ B DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER ________

03 DISTANCE TO NEAREST DRINKING WATER WELL ________ (mi)

04 DEPTH TO GROUNDWATER: 25-30 (ft)

05 DIRECTION OF GROUNDWATER FLOW: south-southeast

06 DEPTH TO AQUIFER OF CONCERN: 25-30 (ft)

07 POTENTIAL YIELD OF AQUIFER: ________ (gpd)

08 SOLE SOURCE AQUIFER: ☐ YES X NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)

10 RECHARGE AREA
☐ YES
☐ NO
COMMENTS

11 DISCHARGE AREA
☐ YES
☐ NO
COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A RESERVOIR, RECREATION, DRINKING WATER SOURCE
☐ B IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C COMMERCIAL, INDUSTRIAL
X D NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
No surface-water bodies in report area	☐	+ 3 (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A 30,000 (NO. OF PERSONS)	B ________ (NO. OF PERSONS)	C 90,000 (NO. OF PERSONS)

02 DISTANCE TO NEAREST POPULATION ________ (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ________

04 DISTANCE TO NEAREST OFF-SITE BUILDING: 30 ft. (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

Site located in industrial park surrounding by small industrial buildings. Heavily populated residential area is located about a mile to the east.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 152113

VI ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A 10^{-6} - 10^{-8} cm/sec ☐ B 10^{-4} - 10^{-6} cm/sec ☐ C 10^{-4} - 10^{-3} cm/sec ☒ D GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☒ A IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B RELATIVELY IMPERMEABLE (10^{-4} - 10^{-6} cm/sec) ☐ C RELATIVELY PERMEABLE (10^{-2} - 10^{-4} cm/sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
1200 (ft.)	N/A (ft.)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
46 (in.)	3.0 (in.)	%	south	1%

09 FLOOD POTENTIAL

SITE IS IN _____ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND COASTAL HIGH HAZARD AREA RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE	OTHER
A 3 (mi.)	B 6 (mi.)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

None (mi.)

ENDANGERED SPECIES _____

13 LAND USE IN VICINITY

DISTANCE TO

COMMERCIAL, INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL, STATE PARKS; FORESTS OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
site in industrial park			
A _____ (mi.)	B 1 (mi.)	C _____ (mi.)	D _____ (mi.)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is located on an outwash plain which slopes gently to the south away from the morainal topographic highs north of the site.

VII SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Pluhowski and Kantrowitz, 1964.
Krulikas, 1981.
USGS, 1969. Amityville Quadrangle.
Roux Site Visit, July 25, 1987.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	None		
SURFACE WATER	None		
WASTE	None		
AIR	None		
RUNOFF	None		
SPILL	None		
SOIL	None		
VEGETATION	None		
OTHER	None		

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
	Air measurements taken with a photoionization meter.
	All photoionization meter readings were at background
	levels.

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Roux Associates

03 MAPS ☐ YES ☐ NO

04 LOCATION OF MAPS

V. OTHER FIELD DATA COLLECTED

Roux Associates Site Visit, July 25, 1987.

VI. SOURCES OF INFORMATION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Little Joseph Realty		1637 Broad Hollow Rd.		Farmingdale	NY	11735

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER	10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE	12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE
Joseph Picone				Farmingdale	NY	11735

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

NYSDEC and SCDHS files
Roux Site Inspection June 25, 1987

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	152113

II. CURRENT OPERATOR — **OPERATOR'S PARENT COMPANY**

01 NAME: Used as a parking lot	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER		

III. PREVIOUS OPERATOR(S) — **PREVIOUS OPERATORS' PARENT COMPANIES**

01 NAME: Mr. George Lawrence	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 1 Shore Rd.	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY: Glenwood Landing	06 STATE: NY / 07 ZIP CODE: 11747	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION: 3	09 NAME OF OWNER DURING THIS PERIOD: Joseph Picone		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	14 CITY	15 STATE / 16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		

IV. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

NYSDEC Site File
SCDHS Site File
Roux Site Inspection June 25, 1987

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I IDENTIFICATION

01 STATE	02 SITE NUMBER
NY	152113

II ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
None	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
None			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
None			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

V SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis, reports)

Roux Site Inspection June 25, 1987

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	152113

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ D. SPILLED MATERIAL REMOVED — 02 DATE 1982 — 03 AGENCY HWD
04 DESCRIPTION In November 1982 HWD allegedly removed all wastes from site

01 ☐ E. CONTAMINATED SOIL REMOVED — 02 DATE 1982 — 03 AGENCY HWD
04 DESCRIPTION Allegedly, HWD pumped out and removed sludge from the 2 on-site drywells

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ G. WASTE DISPOSED ELSEWHERE — 02 DATE 1982 — 03 AGENCY HWD
04 DESCRIPTION HWD allegedly removed all wastes from site and disposed of wastes elsewhere

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE 1982 — 03 AGENCY HWD
04 DESCRIPTION HWD allegedly recycled spent solvent for resale

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE: NY | 02 SITE NUMBER: 152113

II PAST RESPONSE ACTIVITIES

01 ☐ R BARRIER WALLS CONSTRUCTED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ S CAPPING/COVERING | 02 DATE 1982 | 03 AGENCY HWD
04 DESCRIPTION
Allegedly a sludge pit was capped (paved over) the pit was cement lined and used during site clean-up

01 ☐ T BULK TANKAGE REPAIRED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ U GROUT CURTAIN CONSTRUCTED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ V BOTTOM SEALED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ W GAS CONTROL | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ X FIRE CONTROL | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ Y LEACHATE TREATMENT | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ Z AREA EVACUATED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ 1 ACCESS TO SITE RESTRICTED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ 2 POPULATION RELOCATED | 02 DATE | 03 AGENCY
04 DESCRIPTION

01 ☐ 3 OTHER REMEDIAL ACTIVITIES | 02 DATE | 03 AGENCY
04 DESCRIPTION
HWD allegedly removed all wastes from site in November 1982. Site inspections confirmed this. No visable wastes or hazardous conditions were observed during Roux Associates site inspection.

III SOURCES OF INFORMATION

NYSDEC Site File
SCDHS Site File
Roux site inspection June 25, 1987.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	152113

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

NYSDEC VS. HWD for violation 6 NYCRR-Part 360;Constructing and operating a solid waste management facility without a permit. 6/24/81

Town of Babylon was going to proceed with legal action against HWD for alleged zoning law violations. No further information.

III. SOURCES OF INFORMATION

NYSDEC and SCDHS files.

EPA FORM 2070-13 (7-81)

5.7 NYSDEC Inactive Hazardous Waste Disposal Report

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID AND HAZARDOUS WASTE
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2a REGION: 1 SITE CODE: 152113
EPA ID:

NAME OF SITE: Hazardous Waste Disposal
STREET ADDRESS: 11A Picone Blvd.
TOWN/CITY: COUNTY: ZIP:
Farmingdale Suffolk

SITE TYPE: Open Dump- Structure- Lagoon-X Landfill- Treatment Pond-
ESTIMATED SIZE: 0.5 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Little Joseph Realty
CURRENT OWNER ADDRESS.: 1637 Broad Hollow Rd.
OWNER(S) DURING USE...: George Lawrence
OPERATOR DURING USE...: 1 Shore Rd., Glenwood Landing, NY 11547
OPERATOR ADDRESS.....: 1 Shore Road, Glenwood Landing
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From about 1979 To 1983

SITE DESCRIPTION:
A paved and fenced in lot in a small industrial park. Site was used as a temporary storage facility for hazardous wastes picked up by a formerly permitted transporter. Site inspection was done by DEC July 1985. Several old battered drums were observed on site and a strong pungent odor of solvents was present.

In 1984 the site owner removed all wastes from site and ceased operations. A DEC site inspection in July 1985 confirmed this. The site is currently used as a parking lot.

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed-X	Suspected- QUANTITY (units)
paint lacquer		
ink thinners		
chlorinated solvents		
non-chlorinated solvents		
waste oils		
waste resins		
acids		

SITE CODE: 152113

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- Soil- Sediment- None-X

CONTRAVENTION OF STANDARDS:
Groundwater- Drinking Water- Surface Water- Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

Proposed- Under design- In Progress- Completed-
NATURE OF ACTION:

GEOTECHNICAL INFORMATION:
SOIL TYPE: Sand and gravel
GROUNDWATER DEPTH: approximately 25-30 ft.

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Potential for several pathways of contaminant migration.

ASSESSMENT OF HEALTH PROBLEMS:

Medium	Contaminants Available	Migration Potential	Potentially Exposed Population	Need for Investigation
Air				
Surface Soil				
Groundwater				
Surface Water				

Health Department Site Inspection Date :

MUNICIPAL WASTE ID:

6. DATA ADEQUACY AND RECOMMENDATION

6.1 Data Adequacy

The available data is insufficient for completing final HRS Scores. The Hazardous Waste Quantity score of five (5) was based on previous site inspections performed by state and local agencies. A relatively high total total ground-water route score (S_{gw} = 46.67) was calculated based on high containment and waste characteristics targets scores. The surface water route score of zero (0) is because natural surface water bodies are not located within a 3-mile radius of the site.

Previous site inspections performed by local, state and federal agencies reported that hazardous wastes were spilled and/or leaked from on-site drums. These allegations provide sufficient evidence that hazardous wastes were possibly released into the environment. Analytical data needs to be obtained in order to confirm, the presence of soil and/or ground-water contamination.

6.2 RECOMMENDATIONS

A Phase II investigation is recommended to obtain analytical data necessary to determine if ground water is contaminated. Public-supply wells in the vicinity provide drinking water for thousands of people.

6.2.1 Task 1 - Site Reconnaissance

After a complete review of the Phase I study and any available updated information a site visit will be conducted to characterize site accessibility for Phase II studies. The site reconnaissance is a relatively rapid screening process for collection of preliminary information on:

- Drill rig access
- Subsurface utilities
- Location of potential monitoring wells or test borings
- Site hazards

For health and safety purposes a photoionization meter (HNU or TIP II) will be utilized to monitor air quality throughout the site. While on site, visual observations will be made to help in evaluating site hazards, for

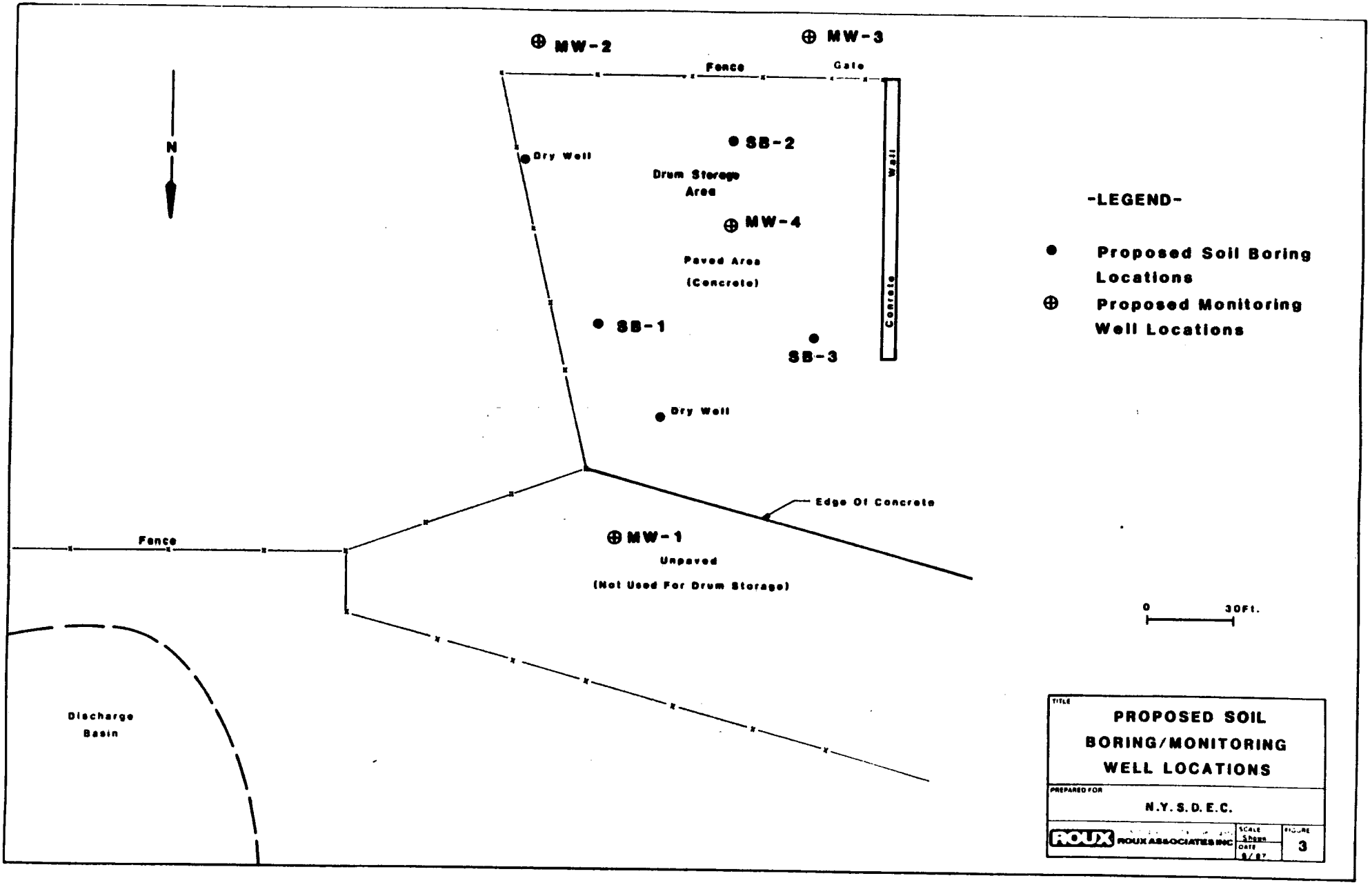
example, conditions that may result in or contact with liquid, sludge and solids, corrosive materials and other general conditions. However, based on Phase I studies, Level D protection is to be expected during site investigations.

6.2.2 Task 2 - Magnetometer Survey

A preliminary screening of the site will be undertaken using a magnetometer. The magnetometer survey will provide the initial screening of the site, help in locating buried metallic objects (pipes, drums) and aid in the selection of locations for potential test borings and well installations.

6.2.3 Task 3 - Soil Borings/Monitoring Wells

Roux Associates recommends that four (4) soil borings be drilled and four (4) monitoring wells installed to NYSDEC specifications. Locations of proposed soil borings and monitoring wells are shown on Figure 3. The purpose of the soil borings is to evaluate the subsurface geology of the site and to determine the type of contamination, if present. The installation of monitoring wells will characterize the ground-water


MW-2
MW-3
Fence
Gate
N
SB-2
Dry Well
Drum Storage Area
MW-4
Paved Area (Concrete)
Wall
Concrete
SB-1
SB-3
Dry Well
Edge Of Concrete
Fence
MW-1
Unpaved
(Not Used For Drum Storage)
Discharge Basin
-LEGEND-
Proposed Soil Boring Locations
Proposed Monitoring Well Locations
0
30Ft.
TITLE
PROPOSED SOIL BORING/MONITORING WELL LOCATIONS
PREPARED FOR
N.Y.S.D.E.C.
ROUX
ROUX ASSOCIATES INC
SCALE
Shown
DATE
8/87
FIGURE
3

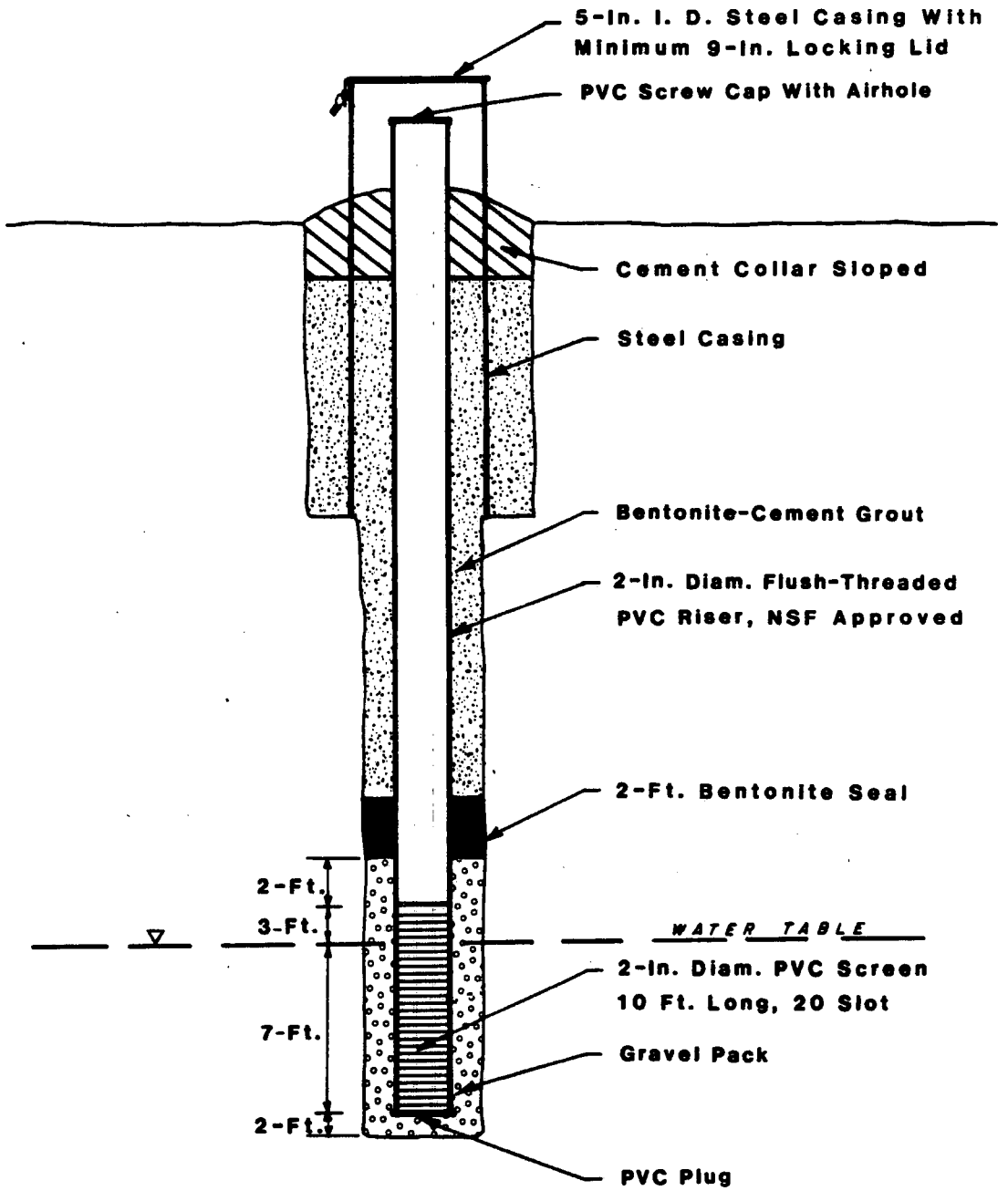
regime at the site. One (1) monitoring well (MW-1) will be located in the north end of the site. This up-gradient well will monitor the quality of ground water entering the site. Two (2) wells (MW-2 and MW-3) will be utilized to monitor ground-water quality downgradient of the storage area. The fourth monitoring well (MW-4) will be located within the alleged storage area.

A truck mounted hollow stem auger rig will be used. Soil samples will be collected at five-foot intervals until ground water is encountered or the bottom of boring reached. The split-spoons used to collect samples are driven one and one-half feet at a time ahead of the auger flights into undisturbed sediments using a standard 140 lb. weight. A geologist will open the spoon, log the core in detail and then place the soil in sample jars. After each sample is collected the bore-hole is advanced five feet where the next sample is collected. A photoionization meter (HNU or TIP II) will be used to screen soil samples and possible organic vapor emissions from drilling operations. Soil samples will be collected for grain size analysis. Auger flights which have come into contact with subsurface materials will be steam-cleaned and split-spoon samplers will be steam-cleaned after each soil sample.

After each boring is completed a ten-foot, two-inch diameter, flush joint, threaded PVC screen (.020 slot) will be set from 28 to 38 feet below land surface and approximately 28 feet of blank PVC pipe will be installed into each boring through the hollow stem auger flights. Because solvents had been alleged to be at the site the well screens will be set at this horizon to bridge the water table, which is approximately 30 feet.

The auger flights are then pulled out of the hole to two feet above the screen zone. Morie No. 2 sand is placed around the screen zone and up to a level of two feet above the screen.

A minimum two foot layer of bentonite pellets is emplaced above the sand pack. The remaining annular space is then pressure grouted with a cement/bentonite slurry (6:1 ratio) to three feet below land surface. A steel curb box with locking lid is then cemented over the wells for protection at land surface. Well construction details, in accordance with NYSDEC guidelines, are given in a well completion diagram shown on Figure 4.



TITLE

MONITORING WELL CONSTRUCTION DETAILS

PREPARED FOR

N.Y.S.D.E.C.

ROUX Consulting Ground-Water Geologists
ROUX ASSOCIATES INC

SCALE	FIGURE
None	4
DATE 7/87	

After well installation, the wells are developed by pumping to remove fine material and ensure a good hydraulic connection between the screen and the formation. The wells are then surveyed to a vertical precision of .01 feet using designated measuring points on the PVC casings. Water levels in the monitoring wells are subsequently recorded using a steel measuring tape and electric probe.

6.2.4 Task 4 - Well Sampling and Analyses

A Quality Assurance/Quality Control (QA/QC) Plan will be developed by Roux Associates and approved by the NYSDEC before work is started.

Analytical data is not available. Alleged wastes include solvents, waste oils and resins. Based on these allegations the sampling program for every water and soil sample will include the target compound list for the Superfund Program. In addition, to the soil and water sampling, Roux Associates recommends that both on-site drywells be sampled and analyzed.

One water sample will be collected and analyzed from each of the monitoring wells. The analytical data will

be evaluated to determine if ground-water contamination is present. A minimum of three soil samples will be analyzed. Additional soil samples may be warranted depending on field observations which may include elevated organic volatile readings or visual/smell detections in split-spoon cores.

Air quality will be monitored, using a photoionization meter (HNU or TIP II), to record volatile organics that may be present on-site.

6.2.5 Task 5 - Quality Assurance/Quality Control

On a daily basis, a project manager will be responsible for the supervision, direction, and review of project activities. The project manager will also be responsible for QA/QC protocols which will be developed by Roux Associates in accordance with NYSDEC guidelines and approval.

6.2.6 Task 6 - Health and Safety Plan

A Health and Safety Plan provides an integrated approach for reducing harm to workers on site. The level of

protection selected will be based on the types and measured concentrations of the chemical substance(s) in the ambient atmosphere and its toxicity and the potential for exposure to substances in air, splashes of liquids, or other direct contact with material due to work being done. In situations where the type of chemical, concentration and possibilities of contact are not known, the appropriate level of protection will be selected based on professional experience and judgment until the hazards can be better identified.

During Phase II operations the site Health and Safety Plan will be in accordance with OSHA Standards as stated in 29 CFR 1900 to 1999 and the U.S. EPA office of Emergency and Remedial Response Interim Standard Operating Safety Guide.

6.2.7 Task 7 - Site Assessment

Roux Associates, utilizing data obtained from Phase II investigations, will:

- Complete EPA Form 2070-13
- Complete EPA Form 2070-12 (Part I) L. Alden letter Item 21
- Finalize HRS scores

- o Summarize site history
- o Discuss potential risks to population if contamination is confirmed.

6.2.8 Task 8 - Phase II Report

The Phase II report will be prepared in accordance with current NYSDEC guidelines. Included in this report are:

- o Phase II field results
  - a. Site reconnaissance
  - b. Magnetometer
  - c. Soil borings and monitoring wells
  - d. Sampling and analysis
  - e. Maps/plans
  - f. Task presentation
  - g. Other collected information
- o Final HRS Scores
- o Remedial alternatives with cost estimates

APPENDIX A

APPENDIX A

BIBLIOGRAPHY

REFERENCE #	DESCRIPTION OF REFERENCE
A-1	J. Yeary (Roux Associates) telephone conversation with George Lawrence (Environmental Services Inc.) on June 10, 1987.
A-2	J. Yeary (Roux Associates) telephone conversation with Vic Emanuelo (Attorney for Little Joseph Realty) on June 10, 1987.
A-3	NYSDEC listing of HWD's permits (9/25/79 - 3/17/80).
A-4	RCRA Inspection Form, September 2, 1981.
A-5	SCDHS Inspection Form, September 14, 1982.

REFERENCE #	DESCRIPTION OF REFERENCE
A-6	J. Soderberg,P.E. memorandums to J. Maloney, P.E. on March 12, 1981 and March 16, 1981.
A-7	Kevin Dunn inspection record of HWD, March 17, 1981.
A-8	J. Soderberg, P.E. memorandum to J. Maloney, P.E. on March 25, 1981.
A-9	A. Machlin (NYSDEC) memorandum to D. Middleton on April 28, 1981.
A-10	J. Scherb (Regional Attorney, NYSDEC) letter to W. Southard (ICC) on May 29, 1981.
A-11	J. Byrnes (Roux Associates) telephone conversation with D. Obrig (SCDHS) on July 15, 1987.

A1

ROUX ASSOCIATES, INC.

Telephone Conversation Sheet

Caller Joanne Yeary

Company Environmental Services Inc.

Contact George Lawrence **Office Telephone #** 273-3150

in Reference to Hazardous Waste Disposal.

DATE	COMMENTS
June 10th	Lawrence said that Hazardous Waste Disposal has been closed by the Suffolk County Health Dept. He said that if we wanted to visit the site we would have to get in touch with the Owner - Joseph Picone CH9-3400.

A2

ROUX ASSOCIATES, INC.

Telephone Conversation Sheet

Caller Joanne Geary

Company Little Joseph Realty Inc.

Contact Vic Emanuelo **Telephone #** 694-3400

re Reference to Hazardous Waste Disposal

DATE	COMMENTS
June 10th	Asked to speak to owner of HWD, Joseph Picone. He (Vic Emanuelo) told me that HWD is owned by Little Joseph Realty Inc. He wants me to mail him letters of authorization before he lets me set up a visit to the site. He wanted to know if I was in contact with the DEC, and who at the DEC. He says he will call back after recieving the letters.
	Mailed letter w/ authorization letters June 10th. (12
	Little Joseph Realty, Inc 1637 Broad Hollow Rd. Farmingdale, NY 11735

A3

New York State Department of Environmental Conservation

Robert F. Flacke
Commissioner

9/25/79	Ltr, SCDHS to HWD at Valley Stream address re: SPDES permit for Picone Blvd Site.
10/8/79	Ltr of authorization for Donnelly Engineering to represent HWD for Picone Blvd Vicinity.
10/17/79	HWD to DEC: Request change of adress listing to Picone Blvd address.
11/2/79	Part 364 Permit for Valley Stream site.
12/18/79	Part 364 Permit for Picone Blvd site.
1/22/80	Ltr, HWD to DEC: "aware of requirements..." etc.
3/17/80	Application to Construct.

moved to Fidale Location

A4-

RCRA TREATMENT, STORAGE AND DISPOSAL FACILITY INSPECTION FORM
FOR TSD FACILITIES ONLY

COMPANY NAME: HAZARDOUS WASTE DISPOSAL, INC.

EPA I.D. Number: NYD000000 3974

COMPANY ADDRESS: 11A PICONE BLVD. FARMINGDALE, N.Y. 11735

COMPANY CONTACT OR OFFICIAL: MR. GEORGE R. LAWRENCE

OTHER ENVIRONMENTAL PERMITS HELD BY FACILITY:

[ ] NPDES

[ ] AIR

[✓] OTHER NYS 360 PERMIT, HAULERS PERMIT

TITLE: PRESIDENT

INSPECTOR'S NAME: GEORGE PAVLOU/ROBERT GARRITY

DATE OF INSPECTION: 9-2-81

BRANCH/ORGANIZATION: SOLID WASTE

TIME OF DAY INSPECTION TOOK PLACE: 2:10 P.M.

RECEIVE
OCT 26 1981
DIRECTOR'S OFFICE
DIVISION OF SOLID WAS

ENVIRONMENTAL PROTECTION AGENCY NEW YORK, N.Y. 10007
OCT 13 3 56 PM '81

(1) Is there reason to believe that the facility has hazardous waste on site?

a. If yes, what leads you to believe it is hazardous waste? Check appropriate box:

[✓] Company admits that its waste is hazardous during the inspection.

[✓] Company admitted the waste is hazardous in its RCRA notification and/or Part A Permit Application.

[✓] The waste material is listed in the regulations as a hazardous waste from a nonspecific source (§261.31)

[ ] The waste material is listed in the regulations as a hazardous waste from a specific source (§261.32)

[ ] The material or product is listed in the regulations as a discarded commercial chemical product (§261.33)

[ ] EPA testing has shown characteristics of ignitability, corrosivity, reactivity or extraction procedure toxicity, or has revealed hazardous constituents (please attach analysis report)

[ ] Company is unsure but there is reason to believe that waste materials are hazardous. (Explain)

	YES	NO	DON'T KNOW
b. Is there reason to believe that there are hazardous wastes on-site which the company claims are merely products or raw materials?	✓		

Please explain:
COMPANY CLAIMS THAT A LOT OF THE SOLVENT IS USED AS AN ALTERNATE FUEL SUPPLIES.

c. Identify the hazardous wastes that are on-site, and estimate approximate quantities of each.
SPENT SOLVENTS AND ACIDS.
1900 DRUMS. PLUS A 2500 GAL. ACID TANK.

	YES	NO	DON'T KNOW
(2) Does the facility generate hazardous waste?	✓		
(3) Does the facility transport hazardous waste?	✓		
(4) Does the facility treat, store or dispose of hazardous waste?	✓		

AA-2

VISUAL OBSERVATIONS

	YES	NO	DON'T KNOW
(5) SITE SECURITY (§265.14)			
a. Is there a 24-hour surveillance system? 24-HOUR SECURITY GUARDS - 7 DAYS PER WEEK.	✓	—	—
b. Is there a suitable barrier which completely surrounds the active portion of the facility? FENCE	✓	—	—
c. Are there "Danger-Unauthorized Personnel Keep Out" signs posted at each entrance to the facility? THERE IS A WARNING SIGN, BUT IS NOT THE ONE REQUIRED BY THE REGULATIONS.	—	✓	—
(6) Are there ignitable, reactive or incompatible wastes on site? (§265.27)	✓	—	—
a. If "YES", what are the approximate quantities? 1900 DRUMS COMPOSED OF IGNITABLE AND NON-IGNITABLE WASTE.			
b. If "YES", have precautions been taken to prevent accidential ignition or reaction of ignitable or reactive waste? ALTHOUGH BONDUK WASTE AND EXPLOSION-PROOF WIRES ALL USED, THE STORED DRUMS ARE LEAKING AND EXPOSED TO THE ENVIRONMENT.	—	✓	—
c. If "YES", explain			
d. In your opinion, are proper precautions taken so that these wastes do not:			
- generate extreme heat or pressure, fire or explosion, or violent reaction?	—	✓	—
- produce uncontrolled toxic mists, fumes, dusts, or gases in sufficent quantities to threaten human health?	—	✓	—
- produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions?	—	✓	—
- damage the structural integrity of the device or facility containing the waste?	—	✓	—
- threaten human health or the environment?	—	✓	—

Please explain your answers, and comment if necessary.

e. Are there any additional precautions which you would recommend to improve hazardous waste handling procedures at the facility? YES, A COMPLETE RENOVATION OF THE STORAGE AREA. THE IMPRESSION IS THAT THE OWNER OF THE FACILITY SIMPLY FILLS THE DRUMS WHENEVER THERE IS AVAILABLE SPACE, WITH MINIMAL ATTENTION TO SAFEGUARD HIS EMPLOYEES' SAFETY, PUBLIC HEALTH AND THE ENVIRONMENT.

(7) Does the facility comply with preparedness and prevention requirements including maintaining: (§265.32)

A4-3

	YES	NO	DON'T KNOW
- an internal communications or alarm system?	✓		
- a telephone or other device to summon emergency assistance from local authorities?	✓		
- portable fire equipment?	✓		
- adequate aisle space?		✓	
- in your opinion, do the types of wastes on site require all of the above procedures, or are some not needed? Explain. ALL OF THE ABOVE PROCEDURES ARE NEEDED.	✓		

In your opinion, do the types of wastes on site require all of the above procedures, or are some not needed? Explain.

ALL OF THE ABOVE PROCEDURES ARE NEEDED

*(8) Have you inspected to verify that the groundwater monitoring wells (if any) mentioned in the facility's groundwater monitoring plan (see no. 19 below) are properly installed? N/A. FACILITY IS NOT A LANDFILL, HOWEVER, ADEQ WELLS LOCATED WITHIN 30 FEET OF THE STORAGE AREA. If you have, please comment, as appropriate.		✓	
(9) a. Is there any reason to believe that groundwater contamination already exists from this facility? If "YES", explain.		✓	
b. Do you believe that operation of this facility may affect groundwater quality?	✓		

c. If "YES", explain. THE LOCATION OF THE DRYWELL IS SUCH THAT MODERATE (OR HEAVY) PRECIPITATION WILL RESULT IN GROUNDWATER CONTAMINATION ASSUMING GROUND WATER TO EXIST UNDER THE FACILITY. ADDITIONALLY, THE RECORDS INSPECTION SPACE BETWEEN THE STORAGE AREA AND THE DRY WELL IS SIMPLY UNCOVERED GROUND.

(10) Has the facility received hazardous waste from an off-site source since Nov. 19, 1980 (effective date of the regulations)?	✓		
a. If "YES", does it appear that the facility has a copy of a manifest for each hazardous waste load received?	✓		
b. How many post-November 19 manifests does it have? (If the number is large, you may estimate) COMPANY RECEIVES WASTES A FEW TIMES PER WEEK.			
c. Does each manifest (or a representative sample) have the following information?			
- a manifest document number	✓		

* This was inserted earlier only after November 19, 1981

AA-4

	YES	NO	DON'T KNOW
(13) PERSONNEL TRAINING (§265.16)			
a. Is there written documentation of the following:			
- job title for each position at the facility related to hazardous waste management and the name of the employee filling each job?	—	—	—
- type and amount of training to be given to personnel in jobs related to hazardous waste management?	—	—	—
- actual training or experience received by personnel?	—	—	—

INADEQUATE; NOT OBTAINED

(14) Does the facility have a written contingency plan for emergency procedures designed to deal with fires, explosion or any unplanned release of hazardous waste? (§265.51)	—	—	—
a. Does the plan describe arrangements made with local authorities?	✓	—	—
b. Has the contingency plan been submitted to local authorities?	✓	—	—
How do you know?			
c. Does the plan list names, addresses, and phone numbers of Emergency Coordinators?	✓	—	—
d. Does the plan have a list of what emergency equipment is available?	✓	—	—
e. Is there a provision for evacuating facility personnel?	✓	—	—
f. Was an Emergency Coordinator present or on call at the time of the inspection?	✓	—	—
(15) Does the owner/operator keep a written operating record with: (§265.73)			
- a description of wastes received with methods and dates of treatment, storage or disposal?	✓	—	—
- location and quantity of each waste?	✓	—	—
- detailed records and results of waste analysis and treatability tests performed on wastes coming into the facility? NOT AT THIS PLANT. A SECOND FACILITY (APPLIED ENVIRONMENTAL SERVICES) KEEPS DETAILED RECORDS OF ALL LAB ANALYSIS; LAB IS LOCATED THERE.	—	—	—
- detailed operating summary reports and description of all emergency incidents that required the implementation of the facility contingency plan?	✓	—	—
*(16) Does the facility have written closure and post-closure plans? (§265.110) FACILITY IS UNDER COURT ORDER TO SHUT DOWN, PARTIALLY SATISFYING CLOSURE REQUIREMENTS	—	✓	—
a. Does the written closure plan include: (SEE ATTACHED COURT ORDER)			
- a description of how and when the facility will be partially (if applicable) and ultimately closed?	—	—	—

* Effective date for this requirement is May 19, 1981.

A4-E

	YES	NO	DON'T KNOW
- an estimate of the maximum inventory of wastes in storage or treatment at any time during the life of the facility?	—	—	—
- a description of the steps necessary to decontaminate facility equipment during closure?	—	—	—
- a schedule for final closure including the anticipated date when wastes will no longer be received and when final closure will be completed?	—	—	—
b. What is the anticipated date for final closure?	—	—	—
†c. Does the owner/operator have a written post-closure plan identifying the activities which will be carried on after closure and the frequency of these activities?	—	—	—
d. Does the written post-closure plan include:			
- a description of planned groundwater monitoring activities and their frequencies during post-closure?	—	—	—
- a description of planned maintenance activities and frequencies to ensure integrity of final cover during post-closure?	—	—	—
- the name, address and phone number of a person or office to contact during post-closure?	—	—	—
*(17) Does the owner/operator have a written estimate of the cost of closing the facility? ($265.142) What is it? ORAL ESTIMATE BY MR. LAWRENCE IS $200,000	—	✓	—
*(18) Does the owner/operator have a written estimate of the cost for post-closure monitoring and maintenance? What is it? ($265.144)	—	—	—
*(19) Has a groundwater monitoring plan been submitted to the Regional Administrator for facilities containing a surface impoundment, landfill or land treatment process? (This requirement does not apply to recycling facilities.) ($265.90) N/A	—	—	—
a. Does the plan indicate that at least one monitoring well has been installed hydraulically upgradient from the limit of the waste mangement area? N/A	—	—	—
b. Does the plan indicate that there are at least three monitoring wells installed hydraulically downgradient at the limit of the waste management area? N/A	—	—	—

† This section applies only to disposal facilities.

* Effective date for this requirement is May 19, 1981.

A4-6

SITE-SPECIFIC

Please circle all appropriate activities and answer questions on indicated pages for all activities circled. When you submit your report, include only those site-specific pages that you have used.

STORAGE	TREATMENT	DISPOSAL
Waste Pile p. 9	Tank p. 8	Landfill pp. 10-11
Surface Impoundment p. 8	Surface Impoundment pp. 8-9	Land Treatment pp. 9, 10
Container p. 7	Incineration pp. 12-13	Surface Impoundment p. 8
Tank, above ground p. 8	Thermal Treatment pp. 12-13	Other _____
Tank, below ground p. 8	Land Treatment pp. 9-10	
Other _____	Chemical, Physical p. 13 and Biological Treatment (other than in tanks, surface impoundment or land treatment facilities)	
	Other _____	

CONTAINERS (§265.170)

	YES	NO	DON'T KNOW
1. Are there any leaking containers? If "YES", explain. MAJORITY OF CONTAINERS WERE LEAKING (SEE COMMENTS IN GENERATOR INSPECTION FORM, P. 4.)			
2. Are there any containers which appear in danger of leaking? If "YES", explain.	✓		
3. Do wastes appear compatible with container materials?		✓	
4. Are all containers closed except those in use?		✓	
5. Do containers appear to be opened, handled or stored in a manner which may rupture the containers or cause them to leak?	✓		
6. How often does the plant manager claim to inspect container storage areas?			
7. Does it appear that incompatible wastes are being stored in close proximity to one another? If "YES", explain.			✓
8. Are containers holding ignitable or reactive wastes located at least 15 meters (50 feet) from the facility's property line?	✓		

9. What is the approximate number and size of containers with hazardous wastes?

1900

A4-7

TANKS (§265.190)	YES	NO	DON'T KNOW
1. Are there any leaking tanks? If "YES", explain.		✓	
2. Are there any tanks which appear in danger of leaking. If "YES", explain.		✓	
3. Are wastes or treatment reagents being placed in tanks which could cause them to rupture, leak, corrode or otherwise fail? If "YES", explain.			✓
4. Do uncovered tanks have at least 2 feet of freeboard or an adequate containment structure?	N/A		
5. Where hazardous waste is continuously fed into a tank, is the tank equipped with a means to stop this inflow?	✓		
6. Does it appear that incompatible wastes are being stored in close proximity to one another, or in the same tank? If "YES", explain.	✓		
7. How often does the plant manager claim to inspect container storage areas?	DAILY		
8. Are ignitable or reactive wastes stored in a manner which protects them from a source of ignition or reaction? If "YES", explain.	N/A		

9. What is the approximate number and size of tanks containing hazardous wastes?
ONE 2500 GALLON ACID TANK.

SURFACE IMPOUNDMENTS (§265.220) N/A	YES	NO	DON'T KNOW
1. Is there at least 2 feet of freeboard in the impoundment?			
2. Do all earthen dikes have a protective cover to preserve their structural integrity? If "YES", specify type of covering.			
3. Is there reason to believe that incompatible wastes are being placed in the same surface impoundment? If "YES", explain.			

AA-8

	YES	NO	DON'T KNOW
4. Are ignitable or reactive wastes being placed in surface impoundments without being treated to remove these characteristics? If "YES", explain.	—	—	—
5. Are there any leaks, failures or is there any deteriorization in the impoundments? If "YES", explain.	—	—	—
6. Give the approximate size of surface impoundments (gallons or cubic feet).			

WASTE PILES (§265.250) N/A

1. Is the waste pile protected from wind erosion?	—	—	—
a. Does it appear to need such protection?	—	—	—
b. Explain what type of protection exists.			
2. Does it appear that incompatible wastes are being stored in the same waste pile? If "YES", explain.	—	—	—
3. Is leachate run-off from a pile a hazardous waste? If "YES", explain this determination and answer (a) and (b) below.	—	—	—
a. Is the pile placed on an impermeable base that is compatible with the waste?	—	—	—
b. Is the pile protected from precipitation and run-on?	—	—	—
4. In your judgment, are ignitable or reactive wastes managed in such a way that they are protected from any material or conditions which may cause them to ignite? Please explain or indicate if no such wastes are present.	—	—	—
Are they placed on an existing pile so that they no longer meet the definition of ignitable or reactive waste? Please explain.	—	—	—
5. How many waste piles are on site, and approximately how large are they?			

LAND TREATMENT (§265.270) N/A

1. Can the facility operator demonstrate that the hazardous waste has been made less or non-hazardous by biological degradation or chemical reactions occurring in or on the soil? Please explain.	—	—	—

AA-9

	YES	NO	DON'T KNOW
*2. Is run-on diverted away from the active portions of the land treatment facility?	—	—	—
*3. Is run-off collected?	—	—	—
4. Are food chain crops being grown on the facility property?	—	—	—
a. If "YES", can the facility operator document that arsenic, lead and mercury:			
- will not be transferred to the crop or ingested by food chain animals or	—	—	—
- will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils.	—	—	—
b. Has notification of the growing of the food chain crops been made to the Regional Administrator?	—	—	—
5. Is there a written and implemented plan for unsaturated zone monitoring?	—	—	—
6. Are there records of the application dates, application rates, quantities and location of each hazardous waste placed in the facility?	—	—	—
7. Do the closure and post-closure plans address:			
a. control of migration of hazardous wastes into the groundwater?	—	—	—
b. control of run-off, release of airborne particulate contaminants?	—	—	—
c. compliance with requirements for the growth of food-chain crops (if they are present)?	—	—	—
8. Is ignitable or reactive waste immediately incorporated into the soil so the resulting waste no longer meets that definition? If "YES", explain.	—	—	—
9. Are incompatible wastes placed in the same land treatment area? If "YES", explain.	—	—	—
10. What is the area of the land receiving hazardous waste treatment?	—	—	—

LANDFILLS (§265.300) N/A

†1. Is run-on diverted away from the active portions of the landfill?	—	—	—
†2. Is run-off from active portions of the landfill collected?	—	—	—

* Effective date for these requirements is May 19, 1981.

† These requirements are effective November 19, 1981.

	YES	NO	DON'T KNOW
3. Is waste which is subject to wind dispersal controlled? Explain.	___	___	___
4. Does the owner/operator maintain a map with:			
- the exact location and dimensions of each cell	___	___	___
- the contents of each cell and approximate location of each hazardous waste type	___	___	___
5. Do the closure and post-closure plans address:			
- control of pollutant migration via ground water?	___	___	___
- control of surface water infiltration?	___	___	___
- prevention of erosion?	___	___	___
6. Is ignitable or reactive waste treated before being placed in the landfill? Explain how you know.	___	___	___
7. Are precautions taken to insure that incompatible wastes are not placed in the same landfill cell? If "NO", explain.	___	___	___
8. Are bulk or non-containerized wastes containing free liquids placed in the landfill? If "YES",	___	___	___
a. Does the landfill have a liner which is chemically and physically resistant to the added liquid?	___	___	___
b. Is the waste treated and stabilized so that free liquids are no longer present?	___	___	___
*9. Are containers holding liquid waste or waste containing free liquids placed in the landfill?	___	___	___
10. Are empty containers (e.g. those containing less than 1/2 inch of liquid) placed in the landfills?	___	___	___
If so, are they crushed flat, shredded or similarly reduced in volume before they are buried?	___	___	___
11. What is the approximate area of the hazardous waste landfill?			

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* Effective date for this requirement is November 19, 1981.

A4-11

INCINERATORS AND THERMAL TREATMENT (§§265.340 and 265.379) N/A

	YES	NO	DON'T KNOW
1. What type of incinerator or thermal treatment is at the site (e.g. waterwall incinerator, boiler, fluidized bed, etc.)?			
2. Was hazardous waste being incinerated or thermally treated during your inspection? If "YES", answer all following questions. If "NO", answer only questions 3 and 7.	---	—	—
3. Has waste analysis been performed (and written records kept) to include:			
- heating value of the waste	—	—	—
- halogen content	—	—	—
- sulfur content	—	—	—
- concentration of lead	—	—	—
- concentration of mercury	—	—	—

NOTE: Waste analysis need not be performed on each waste load if if there are documented data available to show waste characteristics that do not vary. If there are such documented data available, check here ☐ —

4. Does it appear that the owner/operator brings his thermal treatment process to steady state (normal) conditions of operation before introducing hazardous wastes?	—	—	—
5. Did it appear during your inspection that there was adequate monitoring and inspection by owner/operator every 15 minutes during hazardous waste incineration for:			
- waste feed	—	—	—
- auxiliary fuel feed	—	—	—
- air flow	—	—	—
- incinerator temperature	—	—	—
- scrubber flow	—	—	—
- scrubber pH	—	—	—
- relevant level controls	—	—	—
Every hour for:			
- stack plume (color and opacity)	—	—	—
5. Is there open burning of hazardous waste?	—	—	—

A4-12

a. If "YES", what is being burned? (only burning or detonation of explosives is permitted)

b. If open burning or detonation of explosives is taking place, approximately what is the distance from the open burning or detonation to the property of others?

	YES	NO	DON'T KNOW
6. Does the incinerator appear to be operating properly? (Do emergency shutdown controls and system alarms seem to be in good working order?) Please explain.	---	---	---
a. Is there any evidence of fugitive emissions?	---	---	---
7. Is the residue from the incinerator treated by the owner as a hazardous waste? Please explain.	---	---	---

8. What types of air pollution control devices (if any) are installed on the incinerator?

CHEMICAL, PHYSICAL AND BIOLOGICAL TREATMENT ($265.400) N/A

1. Does the treatment process system show any signs of ruptures, leaks, or corrosion? Please explain.	---	---	---
2. Is there a means to stop the inflow of continuously-fed hazardous wastes?	---	---	---
3. Is there ignitable or reactive waste fed into the treatment system?	---	---	---
If "YES", has it been treated or protected from any material or conditions which may cause it to ignite or react? If so, explain how.	---	---	---
Are the incompatible wastes placed in the same treatment process? If "YES", explain.	---	---	---

5. Describe the treatment system at this facility.

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
INDUSTRIAL WASTE AND HAZARDOUS MATERIALS CONTROL
65 JETSON LA., P.O. BOX G, CENTRAL ISLIP, N.Y. 11722
(516) 234-2622

FILE A5-1

NAME OF FACILITY	OWNER/ OFFICER George Lawrence.	PAGE 1 OF
COMPANY NAME HWD INC.	CONTACT	TEL.
PLANT ADDRESS PICONE BLVD.	VILLAGE Farmingdale TOWN Bab.	ZIP
MAILING ADDRESS		

DATE 14 Sept. 82 | TIME 900 AM | ORIG. PERIODIC (RE) | WASTE NO WASTE (H&N) | SEWAGE SYSTEM PUBLIC PRIVATE

INDUSTRY Industrial Waste Scavenger.

SPDES OR NPDES PERMIT? YES NO PERMIT NO. | 360 PERMIT? YES NO PERMIT NO.

SCAVENGER | TEL.

SCAVENGER APPROVED YES NO | PICK UP RECORDS AVAILABLE YES NO | RECORDS CONSISTENT WITH EXPECTED WASTE GENERATION YES NO

HEATING SYSTEM-MFG. NAME	FUEL TYPE	FIRING RATE
INCIN. NAME	WASTE BURNED	RATE

DRUM STORAGE (YES) NO | NUMBER OF DRUMS STORED 840-CONTAIN MATERIAL 420-EMPTY | TYPE OF MATERIAL STORED WASTE RAW (BOTH)

TANK STORAGE (YES) NO | ABOVE GROUND X UNDER GROUND BOTH | TYPE OF MATERIAL STORED (WASTE) RAW BOTH

HAVE TANKS BEEN REGISTERED YES (NO) | CONDITION OF ABOVEGROUND TANKS GOOD FAIR (POOR) | ANY ART. XII VIOLATIONS (YES) NO

(1) Spills noted in drum storage area were cleaned up with absorbent material.

(2) Empty drums outside dyked area had material within them.

(3) Drums Containing material 840 x 55 gal.
Drums empty - 420 x 55 gal.

(4) Article 12 Violations → Outside, unsecured, pad not impervious.

PERMISSION IS GRANTED BY THIS FACILITY TO THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES TO CONDUCT ROUTINE SAMPLING OF CESSPOOLS, STORMDRAINS, AND OTHER DISCHARGE POINTS AT THE FACILITY.

REINSPECTION SCHEDULED ON OR AFTER _____. FAILURE TO CORRECT UNSATISFACTORY CONDITIONS BY REINSPECTION DATE MAY RESULT IN A HEARING AND/OR FINE. DAVID OBRIG

SIGN. OF PERSON REC. REPORT	TITLE	INSPECTOR

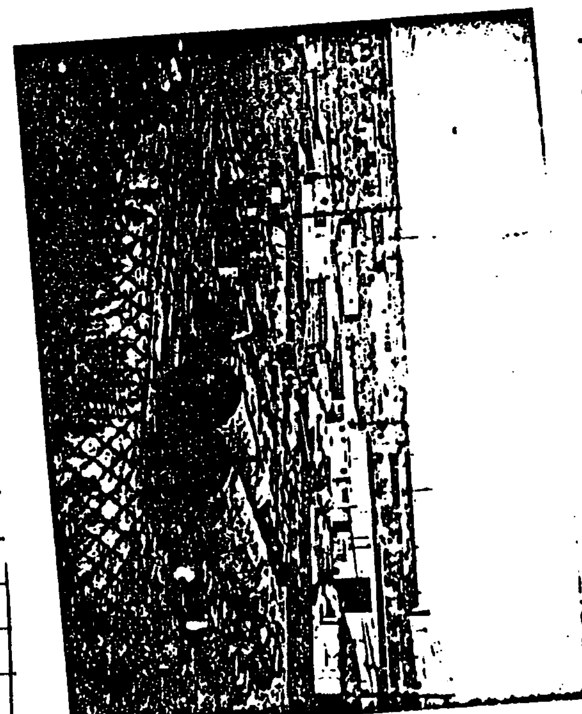
18 155 6/81 5/81 TJK

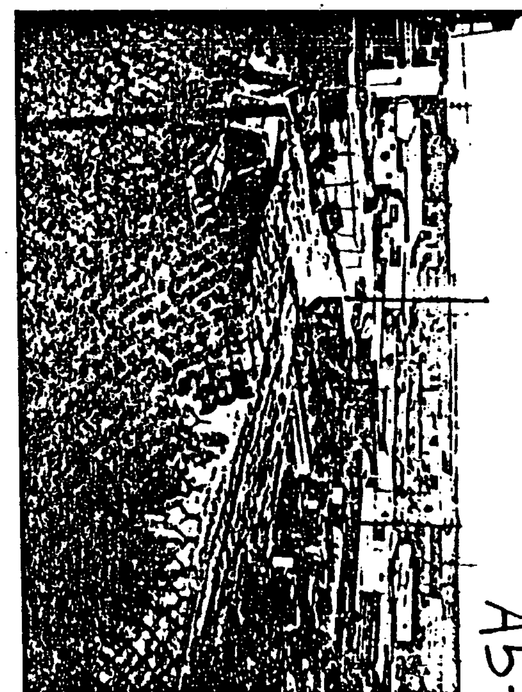
INDUSTRIAL WASTE PROCESS

NO.	PROCESS	CHEMICALS USED AND APPROXIMATE QUANTITY	DISCHARGE	DISCHARGE TO
5	(a) Furthest West blue sludge	tank, 8-12" MATERIAL.		
	(b) Next to furthest WEST ,	8-12" LIQUID (BLACK) 8-12" MATERIAL (SLUDGE)		
6	Blue tank middle of drums,	1/2 full AS per Geo. Lawrence.		
7	Pit, covered with black plastic	full to top sludge.		
8	2X blue dumpsters, each 1/2	full, by inspection.		

NO.	PROCESS

HUD INC.
PICONE BLVD. FARMINGDALE, NY
14 Sept 82





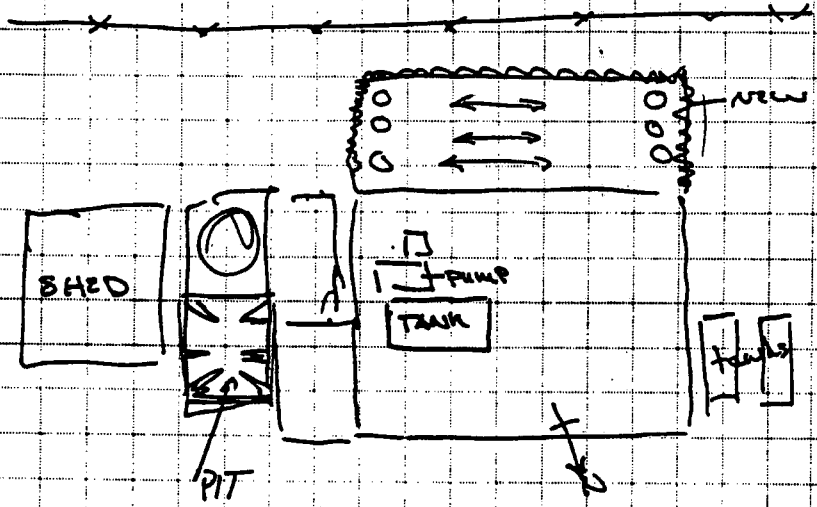
A5-

SUFFOLK COUNTY DEP'T OF
HEALTH SERVICES

JOB HWD INC (A5-3)
SHEET NO. PICONA BLVD. FARMING OF DATE
CALCULATED BY B DATE
CHECKED BY DATE
SCALE

30 JUNE 82 - 1150 AM.

Log ✓ Reinsp
New Letter
Art XII ✓ Sample
Air File
Alex S. ✓



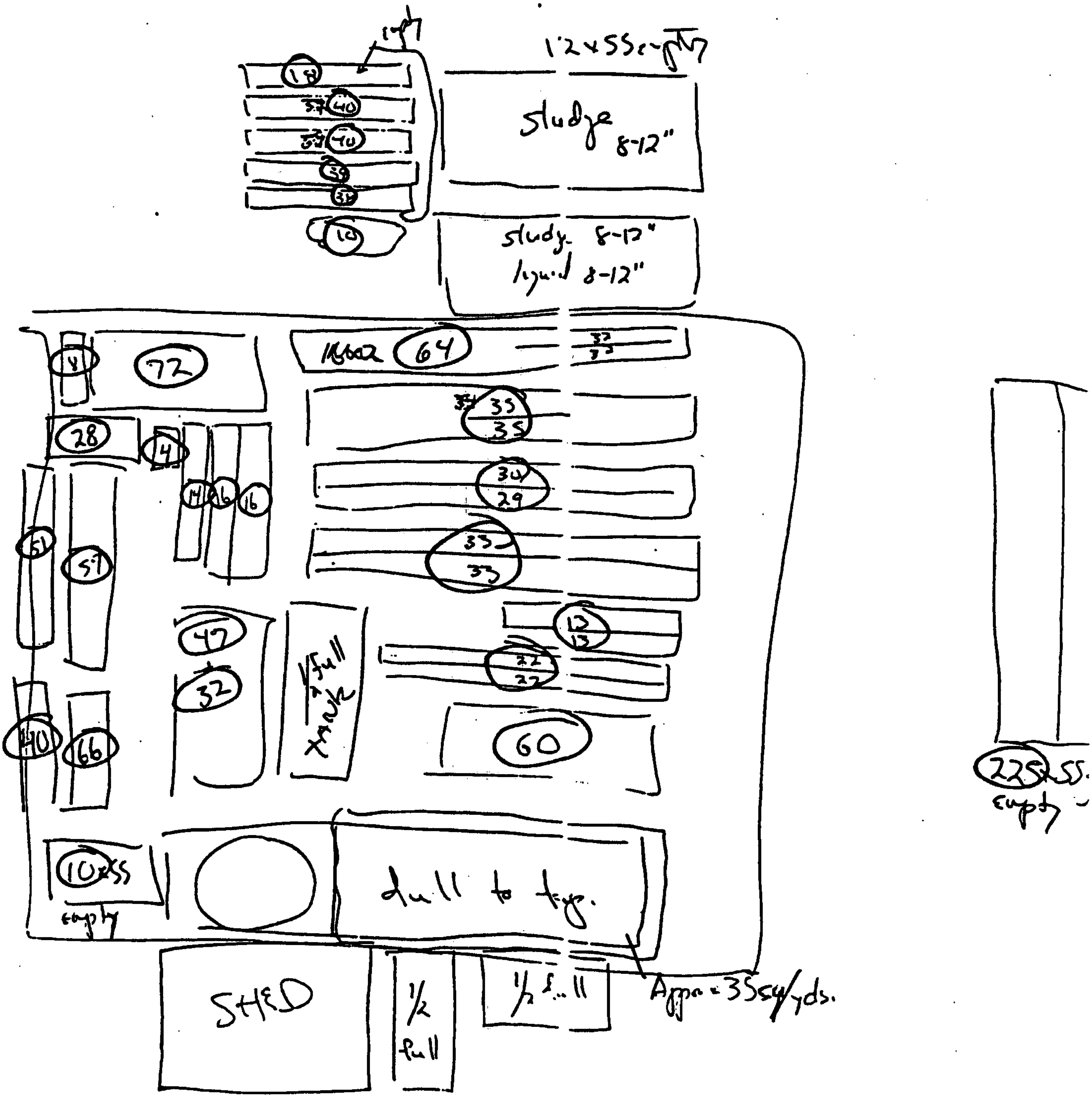
(1) OBSERVED NO WORK AT SITE DURING INSPECTION.
(2) OBSERVED NO OBVIOUS SPILLS
(3) Drums were uncovered + exposed to weather.

(4) New pad area has been constructed to the South of the old drum storage.
Drums two (2) high have been stored between the fence + the transfer pump.

(5) Waste pit North of Acid/Base mix tank covered with black plastic.

D. Obrey

A5-4



15 Sept - Acid tank to be pumped

Spill in drum area had absorbent material on floor

Empty drums and silo dip areas had residue in some.

A6-1

MEMORANDUM

TO: James C. Maloney, P.E.

FROM: John V. Soderberg, P.E.

DATE: March 12, 1981

RE: Hazardous Waste Disposal (H.W.D.)

On March 11, 1981 the writer was requested to accompany representatives of the Toxic Waste Handling Group in their investigation of the above premises.

At the time of my inspection there were no visible emissions occurring from the process tank in question. However, the East Farmingdale Fire District indicated a visible plume of from 150 to 200' in vertical height on or about noon of that date.

As part of my inspection, I spoke with representatives of Pront Printing (110 Picone Boulevard, Farmingdale). They indicated that the situation has been occurring sporadically since last September and was particularly severe last Summer. Concerning the specific incident, they were unsure about specifics and reported no property damage or lost time that they can contribute directly to the incident.

I recommend first that a detailed industrial survey be made of the premises and secondly that the firm be placed under routine surveillance for at least three months.

JVS:mew

A6-2

MEMORANDUM

TO: JAMES C. MALONEY

FROM: JOHN V SODERBERG

DATE: MARCH 16, 1981

RE: H W D.

In follow up to my memo concerning the March 11, 1981 investigation of the above firm, an air pollution emission inspection was not performed at that time (due to inclement weather and potential safety hazard).

The water pollution file contains no information either confirming of denying the presence of such sources (only the H. W. D. environmental check-list submitted by them to Babylon Town indicating no process emissions).

I have therefore requested that such a survey be performed.

JVS:ets

20. Continued Recorded Existing Conditions Noted by Inspector 3/17/81

Visited HWD and spoke with Andrew Cauley Gen'l. Manager, who was very cooperative in supplying information on the plant. It was determined that they exist an Ammonium-Hydroxide scrubbing process or an acid storage tank that is operating without a certificate to operate. A violation was issued to Mr. Cauley for operating without that permit.

A tour of the ground further disclosed that only 3 of the 6-10 large steel cylinder tanks remained referred to by D. O'Brig in his report of 3/11/81 were remaining at the location indicated by Mr. O'Brig. None of the 55 gal. drums were there. There was liquid waste in one of the tank and sludge waste in the other 2. The liquid + sludge waste were going to be transfered to 55 gal. drums for further transfer to a waste treatment plant in New Jersey acc/to the yard foreman.

Klein Dunn

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES

A8

MEMORANDUM

TO: James C. Maloney, P.E.

FROM: John V. Soderberg, P.E.

DATE: March 25, 1981

RE: H.W.D. - Farmingdale

In accordance with procedure I have, subsequent to Mr. Dunn's inspection, requested certificate application from the above firm.

In light of the issuance of a violation to the firm for failure to obtain a permit to construct, do you wish me to initiate formal litigatory proceedings at either local or State level.

JVS:mew

Yes gm

Yes. Prepare legal actoix to go to the State. Mr Roberts will have to make final determination.

3/31/81

JCM

New York State Department of Environmental Conservation

A9.

MEMORANDUM

TO: D. Middleton
FROM: A. Machlin
SUBJECT: Monthly Report - Environmental Quality, April 1981

DATE: April 28, 1981

A. Accomplishments

1. Town of Oyster Bay - Solid Waste

A meeting was held with the Town and representatives of DEC, NCDH, and USEPA on the Town's proposed resource-recovery facility to expedite necessary permits including the PSD permit being handled by USEPA.

In addition, the Town has submitted a report on wastewater management for the proposed resource-recovery project, as well as landfill leachate and incinerato discharges, which were reviewed at a meeting with the Town, its consultants (Lockwood, Kessler & Bartlett), and NCDH.

2. Town of North Hempstead/PASNY/Resource Recovery

PASNY is preparing a proposal to build a resource-recovery facility which will be presented to the Town on or about June 1, 1981. This Department has been involved in meetings with PASNY, USEPA, NCDH, and the Town to expedite necessary permits including the PSD permit presently being handled by USEPA.

3. Groundwater Management Program

Continued progress was made towards completion of early work tasks of the project and initiation of intermediate technical tasks. The final draft report of Criteria for Defining Groundwater/Water Supply Problems was transmitted to USEPA.

4. 208 Projects

Meetings were held on 4/23/81 with USEPA Consultants and Region staff, local agencies, and DEC staff to initiate Consumer Products, Spill Response, and Fertilizer/Pesticides projects in terms of contract preparations, work plans, etc., and to determine the nature and extent of involvement of USEPA consultants in the projects.

5. Beach Erosion & Hurricane Protection Program

The Tidal Wetlands permit was issued for the Moriches Inlet breach repair revetment project.

6. Air Resources - Agreements with NCDH and SCDHS

Memoranda of Agreement for carrying out DEC programs by NCDH and SCDHS have been completed.

A9-2

2. Applied Environmental Services-(AES) and Hazardous Waste Disposal (HWD) Corp.

On 4/14/81, a meeting was held between representatives of the Bureau of Hazardous Waste and this Region concerning the carrying out of that program in this Region. It was indicated that Region 1 had the most commercial hazardous waste facilities in the State. Also, a major part of the discussion related to HWD in Farmingdale and AES in Glenwood Landing. Since HWD was not a pre-existing facility and commenced operation in July of 1979 without a Part 360 Permit, it was determined that it was operating illegally and should be closed until a permit is received. On the other hand, AES was a pre-existing facility but does not yet have a completed Part 360 application which would allow it to operate legally. It was determined that an Order on Consent would be utilized to allow the continued operation of AES, with a three-month milestone to allow for completion of the application and continued cleanup. If the application is completed at that time, the Order on Consent would continue to be utilized to allow the operation until the permit process was completed.

On 4/23/81, a meeting was held with representatives of AES and HWD to inform them of this Department's determinations. The owner of the firm indicated that, if HWD was closed, the firm could not afford to keep AES open since the operations were interdependent. The owner offered to correct any deficiencies on HWD as soon as possible if DEC would allow continued operation. The Division of Solid Waste attorney stated that he would bring this matter to the attention of this Department's Executive Staff for a review and determination within the week.

3. Water Quality Accidents

There were forty-four new spills reported: twenty-eight in Nassau County and sixteen in Suffolk County

4. Sheridan Industrial Waste Oil Corp.

Nassau County Department of Public Works has indicated that it cannot temporarily accept the oil-contaminated water that is removed from Sheridan's waste oil collection operation, as originally hoped, because it is considered a hazardous waste by USEPA and would need an extensive effort on their part to meet USEPA regulatory requirements. Since Sheridan presently has no disposal point for this material, it is not picking up this material which will probably result in increased illegal disposal.

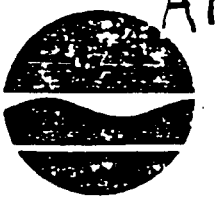
5. [illegible] - Solid Waste

[illegible] and a conference has been scheduled for 5/6/81 on this matter.

6. [illegible] - Solid Waste

[illegible] Part 360 Permit issued to the Town calls for involvement in resource recovery.

New York State Department of Environmental Conservation
Building 40 - State University of New York
Stony Brook, New York 11794
(516) 751-7900



Robert F. Flacke
Commissioner

May 29, 1981

Mr. William R. Southard
Assistant Regional Director
Interstate Commerce Commission
Suite 501
150 Causeway Street
Boston, Massachusetts 02114

Dear Mr. Southard:

Please be advised that Hazardous Waste Disposal, Inc. has been operating without the required Part 360 Permit, pursuant to Article 27, Title 7, of the New York State Environmental Conservation Law. They have also been operating without a Siting Board Permit, as required under Section 27-1105.

They are, therefore, operating illegally and I am attaching hereto, a copy of the Department's Notice of Hearing and Complaint. I would suggest that you consider these facts in reviewing their temporary Permit to Operate.

Very truly yours,

JOAN B. SCHERB
Regional Attorney

JBS:cm
Attachment
cc: Town of North Hempstead
bc: Morris Bruckman

A11

ROUX ASSOCIATES, INC.

Telephone Conversation Sheet

Caller J. BYRNES

Company Suffolk County Department of Health Services

Contact Mr. David Obrig Telephone # (516) 451-463

DATE	COMMENTS
7/15	In reference to the alledge sludge pit: Mr. Obrig informed me that the cement lined pit was used during clean-up operations. Wastes from on-site drums were emptied into this pit and after wastes solidified they were removed from pit and transported off-site.
	Storm drains — the 2 storm drains empti into the nearby sump. This was proven when a dye test was performed by Mr. Obrig and the local fire department.
	Mr. Obrig also stated that very early samples were taken from the on-site storm drains and high concentrations of Styrene found.

APPENDIX B

(47-15-11 (10/83)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF SOLID AND HAZARDOUS WASTE

INACTIVE HAZARDOUS WASTE DISPOSAL SITE REPORT

PRIORITY CODE: _____ SITE CODE: 152113

NAME OF SITE: Hazardous Waste Disposal REGION: I

STREET ADDRESS: 11 A Picone Blvd.

TOWN/CITY: Farmingdale COUNTY: Suffolk

NAME OF CURRENT OWNER OF SITE: Little Joseph Realty, Inc.

ADDRESS OF CURRENT OWNER OF SITE: 1637 Broad Hollow Rd., Farmingdale, NY

TYPE OF SITE: OPEN DUMP [x] STRUCTURE [ ] LAGOON [ ]
LANDFILL [ ] TREATMENT POND [ ]

ESTIMATED SIZE: 0.5 ACRES

SITE DESCRIPTION: Located in an industrial park, the site is a paved and fenced in lot. the site was used for the temporary storage of hazardous wastes. Wastes were stored in 55-gallon drums, sludge pit and tanks. The DEC conducted a site inspection in July 1985 and observed several poorly conditioned drums and a strong solvent odor.

As of Roux Associates' site inspection on June 25, 2987, the site shows no signs of any hazardous materials or conditions.

HAZARDOUS WASTE DISPOSED: CONFIRMED [x] SUSPECTED [ ]

TYPE AND QUANTITY OF HAZARDOUS WASTES DISPOSED:

TYPE	QUANTITY (POUNDS, DRUMS, TONS, GALLONS)
chlorinated and non-chlorinated solvents	unknown
paint sludge	unknown
waste oils	unknown
waste resins	unknown

PAGE

TIME PERIOD SITE WAS USED FOR HAZARDOUS WASTE DISPOSAL:

_____, 19 79 TO _____, 19 84

OWNER(S) DURING PERIOD OF USE: George Lawrence

SITE OPERATOR DURING PERIOD OF USE: George Lawrence

ADDRESS OF SITE OPERATOR: 1 Shore Rd., Glenwood Landing, NY

ANALYTICAL DATA AVAILABLE: AIR ☐ SURFACE WATER ☐ GROUNDWATER ☐
SOIL ☐ SEDIMENT ☐ NONE ☒

CONTRAVENTION OF STANDARDS: GROUNDWATER ☒ DRINKING WATER ☐
SURFACE WATER ☐ AIR ☐

SOIL TYPE: unconsolidated sand and gravel

DEPTH TO GROUNDWATER TABLE: 25 - 30 feet

LEGAL ACTION: TYPE: _____ STATE ☐ FEDERAL ☐
STATUS: IN PROGRESS ☐ COMPLETED ☐
REMEDIAL ACTION: PROPOSED ☐ UNDER DESIGN ☐
IN PROGRESS ☐ COMPLETED ☐

NATURE OF ACTION: _____

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Potential soil and ground-water contamination

ASSESSMENT OF HEALTH PROBLEMS:

N/A

PERSON(S) COMPLETING THIS FORM:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAME J. Patrick Byrnes
TITLE Geologist
NAME Roux Associates, Inc.
TITLE _____
DATE: _____

NEW YORK STATE DEPARTMENT OF HEALTH

NAME _____
TITLE _____
NAME _____
TITLE _____
DATE: _____

Facility name: Hazardous Waste Disposal

Location: 11 A Picone Blvd., Farmingdale, NY (Suffolk Co.)

EPA Region: II

Person(s) in charge of the facility: Little Joseph Realty

(Attorney Vic Emanuelo, Ed Lynch)

Name of Reviewer: Roux Associates Date: June 25, 1987

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

The Site, located in Farmingdale, NY, consists of a fenced-in paved parking lot. All waste materials have been removed and site is visually clean. From 1979-1982 the site was used as a hazardous waste storage facility. Wastes were contained in 55-gal. drums and large tanks. Site inspections reported leaks in on-site drums. Spilled wastes pose a potential threat to ground water.

Scores: $S_M = 26.98$ ($S_{gw} = 46.67$ $S_{sw} = 0$ $S_a = 0$)

S_{FE} = Not scored

$S_{DC} = 0$

Maximum $S_M = 31.13$

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0	45	1	0	45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.						
2 Route Characteristics						3.2
Depth to Aquifer of Concern	0 1 (2) 3		2	4	6	
Net Precipitation	0 1 2 (3)		1	3	3	
Permeability of the Unsaturated Zone	0 1 2 (3)		1	3	3	
Physical State	0 1 2 (3)		1	3	3	
Total Route Characteristics Score				13	15	
3 Containment	0 1 2 (3)		1	3	3	3.3
4 Waste Characteristics						3.4
Toxicity/Persistence	0 3 6 (9) 12 15 18		1	9	18	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8		1	5	8	
Total Waste Characteristics Score				14	26	
5 Targets						3.5
Ground Water Use	0 1 2 (3)		3	9	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 (40)		1	40	40	
Total Targets Score				49	49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				26,754	57,330	
7 Divide line 6 by 57,330 and multiply by 100			S_{gw} = 46.67			

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	(0) 1 2 3	1	0	3	
1-yr. 24-hr. Rainfall	0 1 (2) 3	1	2	3	
Distance to Nearest Surface Water	(0) 1 2 3	2	0	6	
Physical State	0 1 2 (3)	1	3	3	
Total Route Characteristics Score			5	15	
3 Containment	0 1 2 (3)	1	3	3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 (9) 12 15 18	1	9	18	
Hazardous Waste Quantity	0 1 2 3 4 (5) 6 7 8	1	5	8	
Total Waste Characteristics Score			14	26	
5 Targets					4.5
Surface Water Use	(0) 1 2 3	3	0	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			0	55	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	64,350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} = 0			

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

NOTE: There are no wastes visibly present on-site.

Air Route Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Release	(0) 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 / 21 24 (27) 30	1	27	30	
Distance to Sensitive Environment	(0) 1 2 3	2	0	6	
Land Use	0 1 2 (3)	1	3	3	
	Total Targets Score		30	39	
4 Multiply 1 x 2 x 3			0	35,100	
5 Divide line 4 by 35,100 and multiply by 100		S_a = 0			

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	46.67	2178.01
Surface Water Route Score (S_{sw})	0	0
Air Route Score (S_a)	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2178.01
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		46.67
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		26.98

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Maximum S_M = 31.13

Site visit did not document a demonstrated fire or explosion threat. During Roux Associates Site Visit, all photoionization meter readings were at background levels, and there was no waste visible at site.

Fire and Explosion Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Containment	1 3	1		3	7.1
2 Waste Characteristics					7.2
Direct Evidence	0 3	1		3	
Ignitability	0 1 2 3	1		3	
Reactivity	0 1 2 3	1		3	
Incompatibility	0 1 2 3	1		3	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
Total Waste Characteristics Score				20	
3 Targets					7.3
Distance to Nearest Population	0 1 2 3 4 5	1		5	
Distance to Nearest Building	0 1 2 3	1		3	
Distance to Sensitive Environment	0 1 2 3	1		3	
Land Use	0 1 2 3	1		3	
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5	
Total Targets Score				24	
4 Multiply 1 x 2 x 3				1,440	
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} = Not Scored		

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

NOTE: There are no wastes visibly present on-site.

Direct Contact Work Sheet

Rating Factor	Assigned Value (Circle One)	Multiplier	Score	Max. Score	Ref. (Section)
1 Observed Incident	(0) 45	1	0	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	(0) 1 2 3	1	0	3	8.2
3 Containment	(0) 15	1	0	15	8.3
4 Waste Characteristics Toxicity	0 1 2 3	5		15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 1 2 3 4 (5)	4	20	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			20	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			0	21,600	
7 Divide line 6 by 21,600 and multiply by 100	S_{DC} = 0				

FIGURE 12
DIRECT CONTACT WORK SHEET